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Digitized with financial assistance from

on 28 December, 2018

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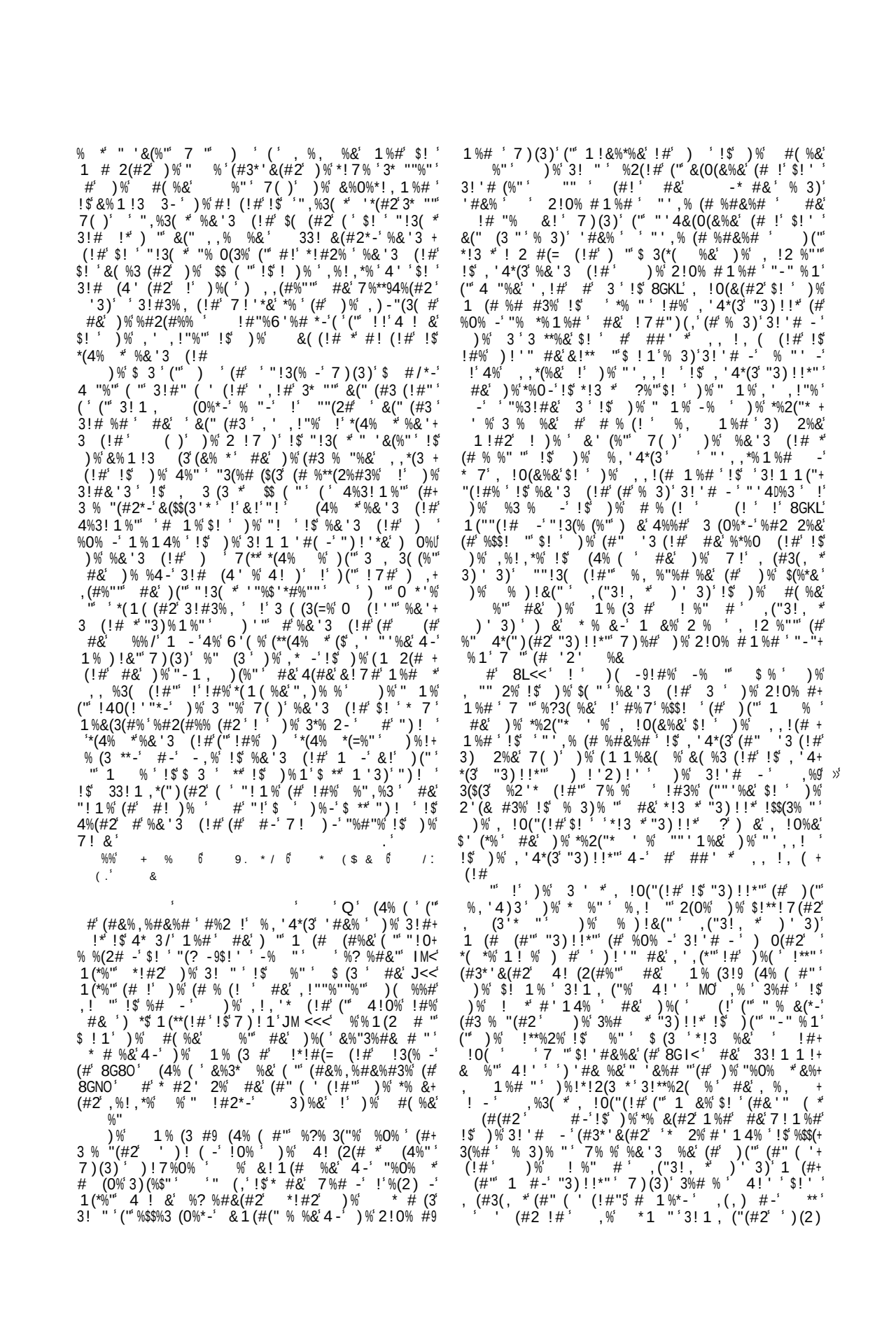

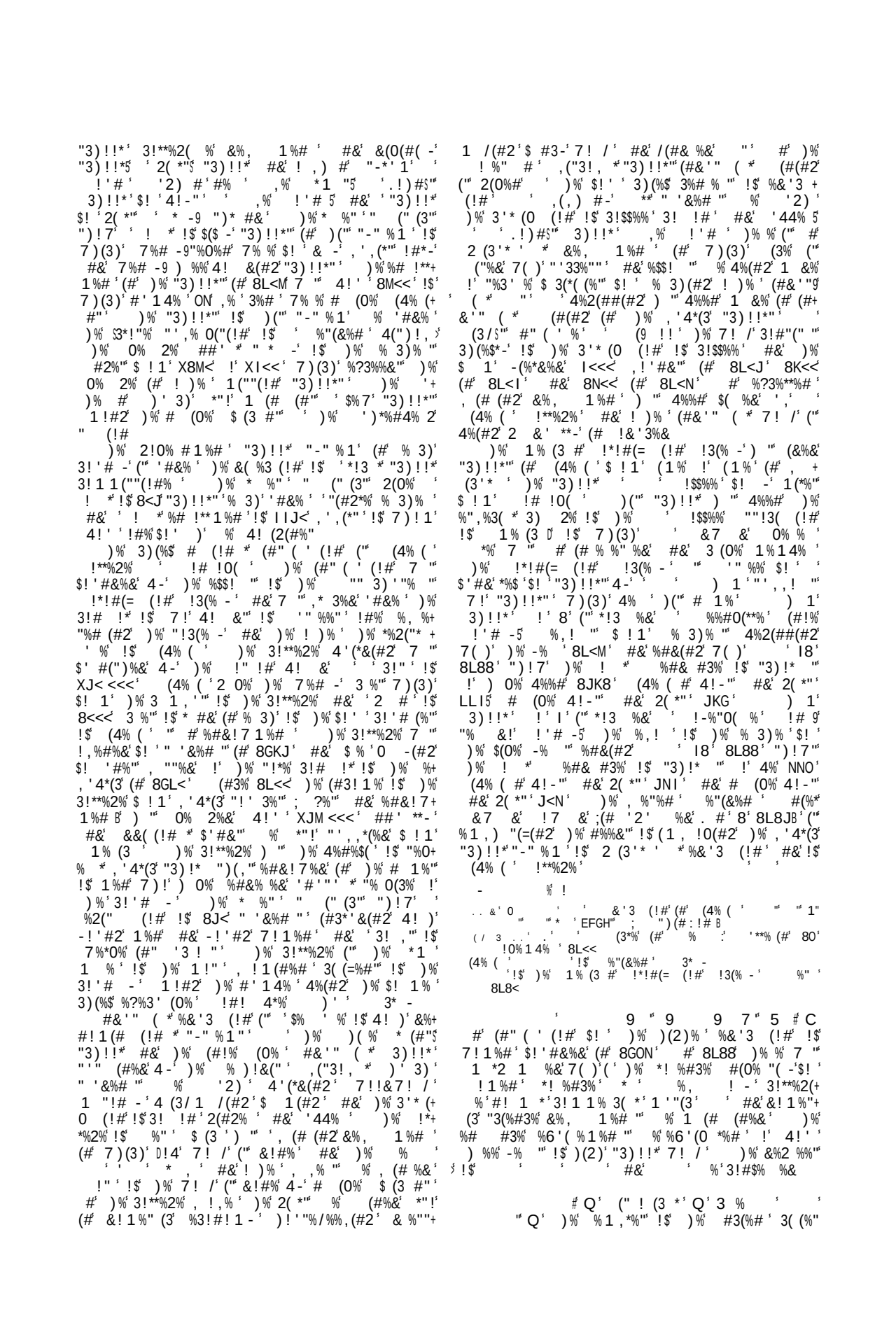

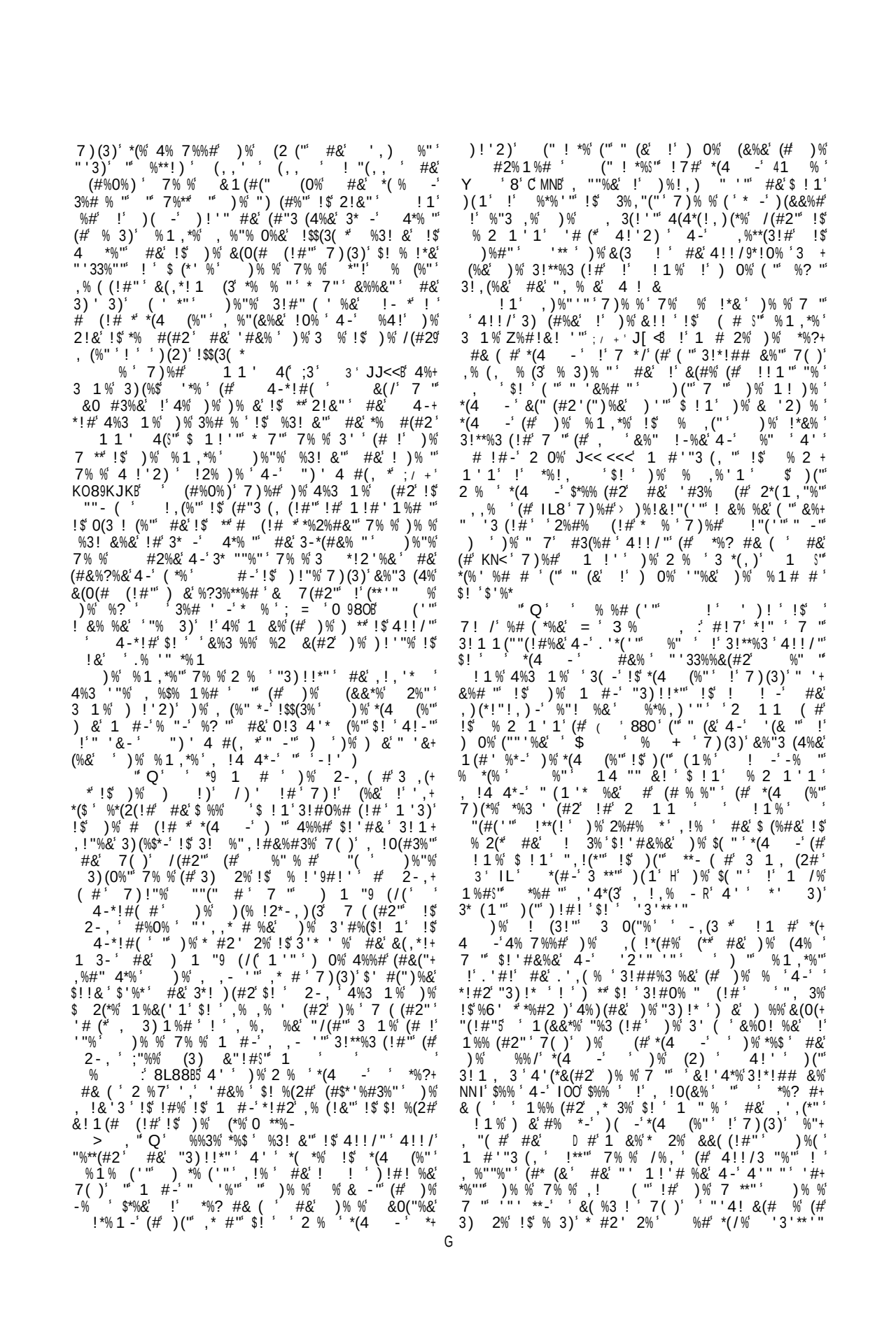

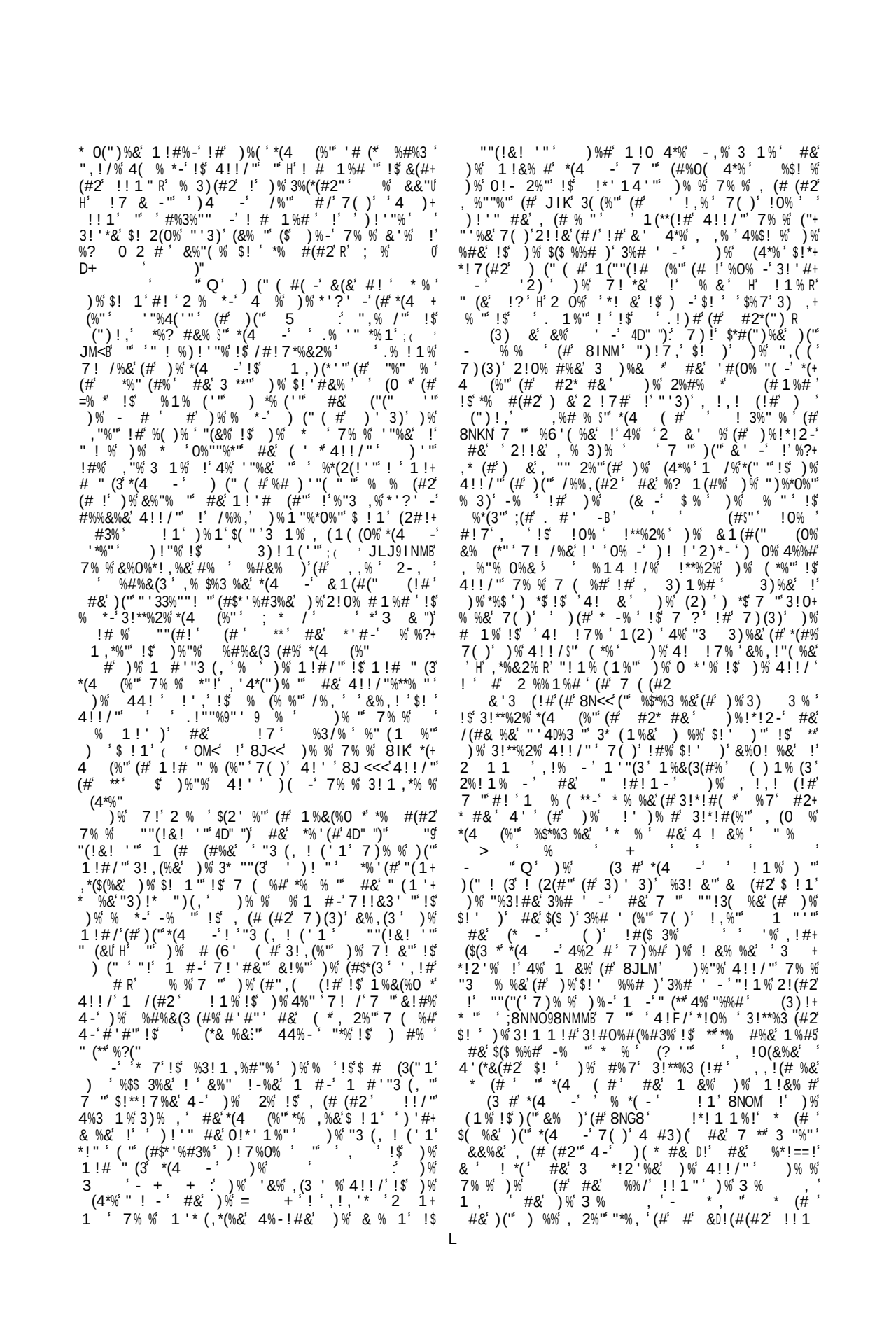

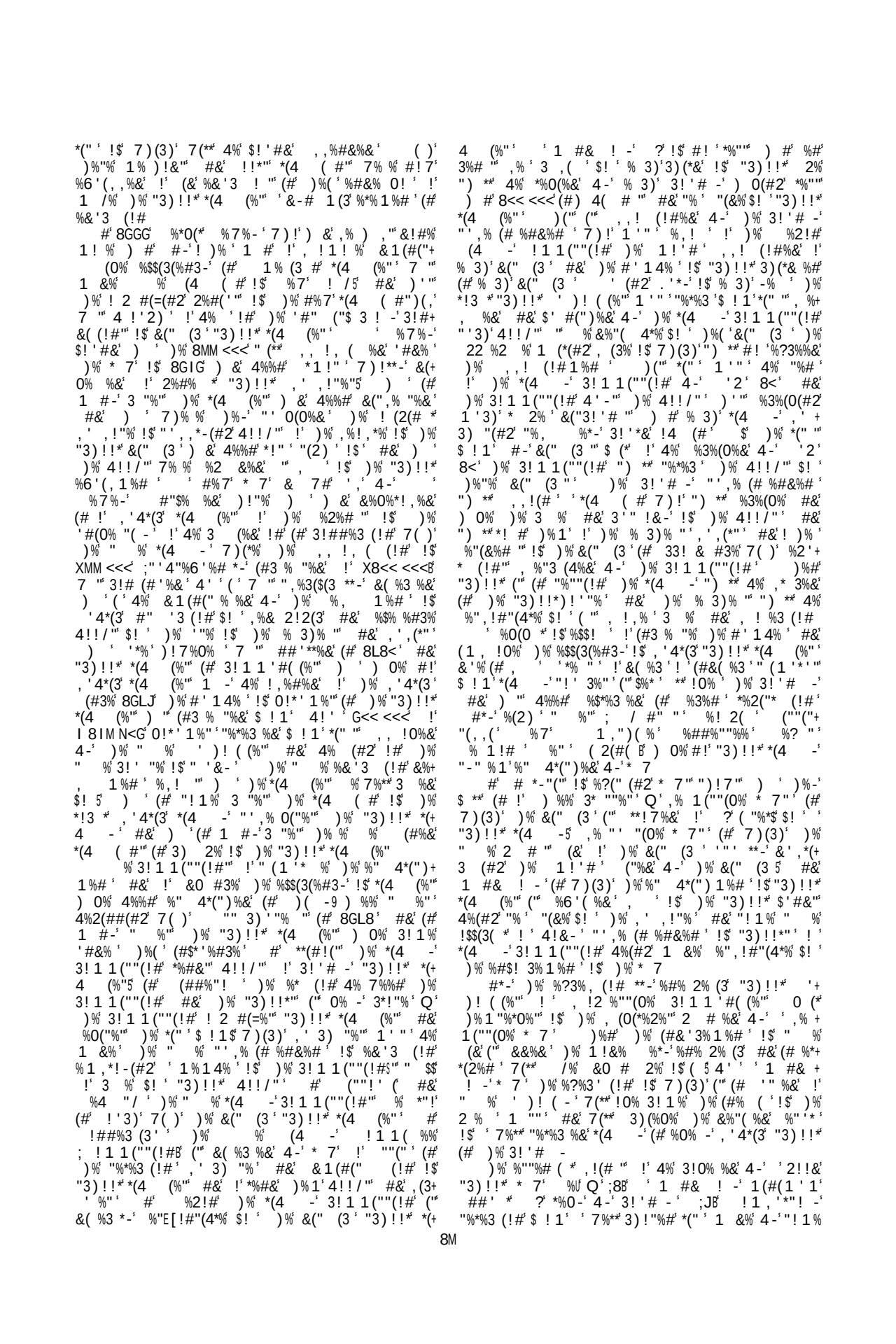

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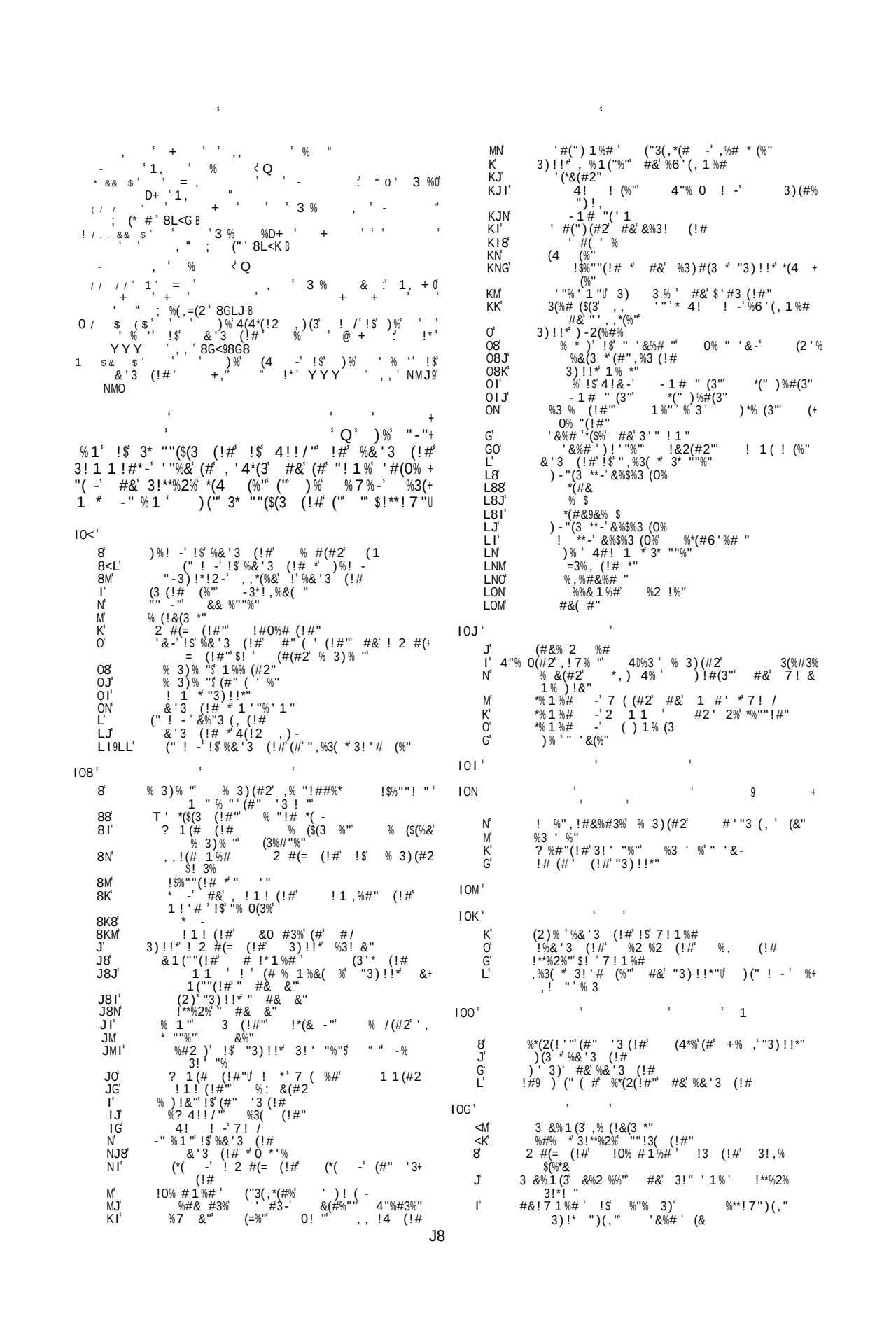

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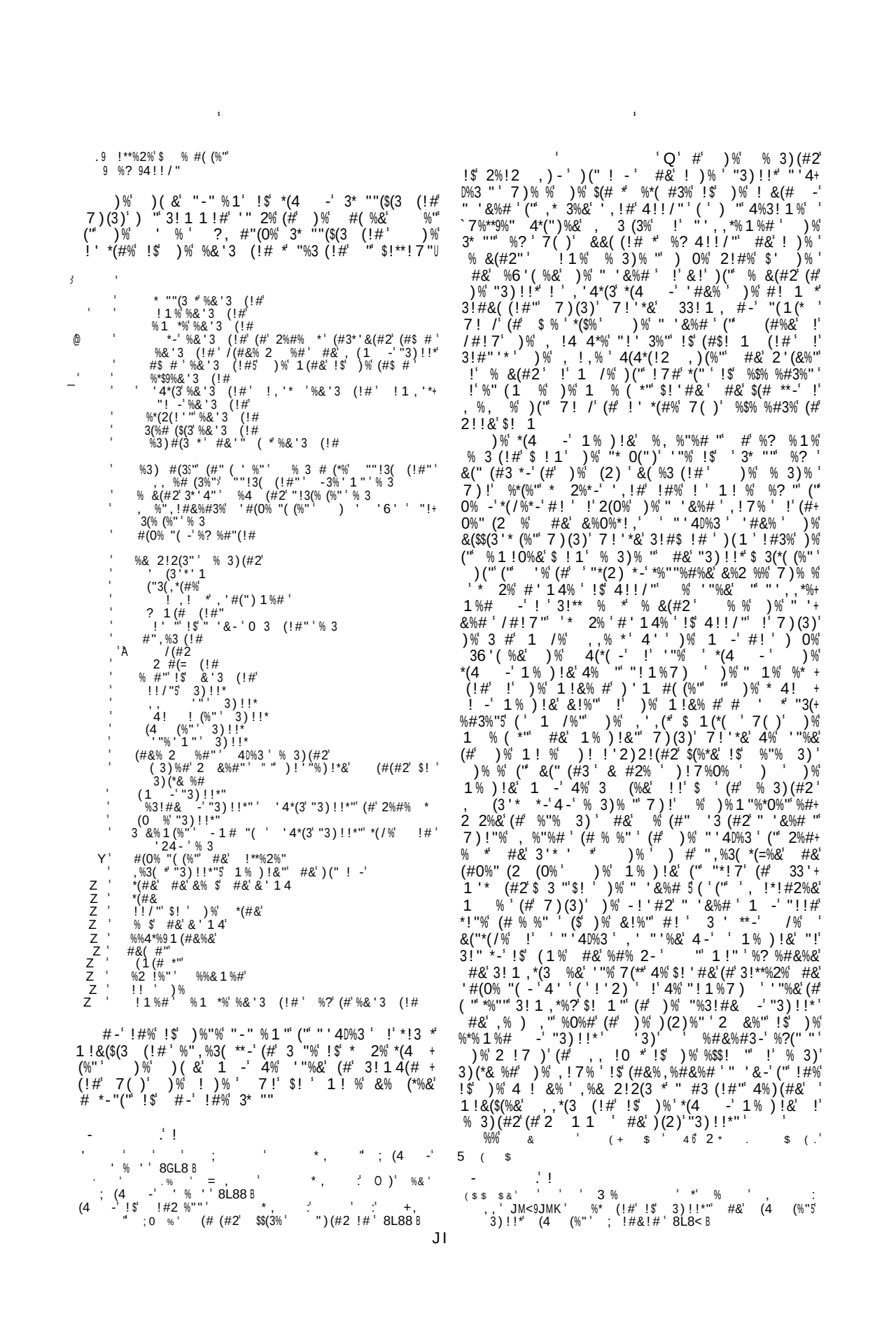

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8OM98OO5' 8L<O' ,,' 8<G988<5' 8L<G' ,,' 8LL9J<J5'
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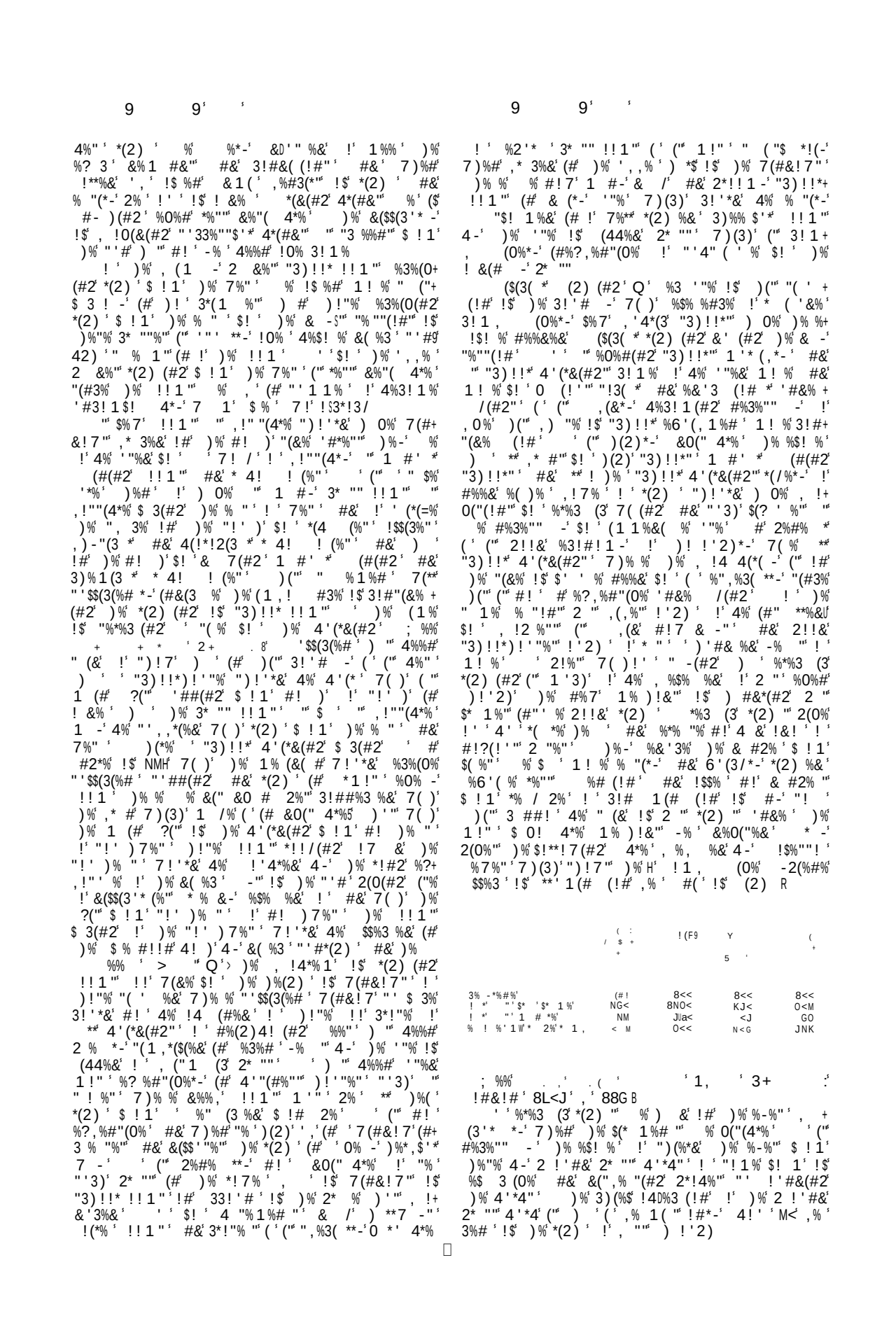

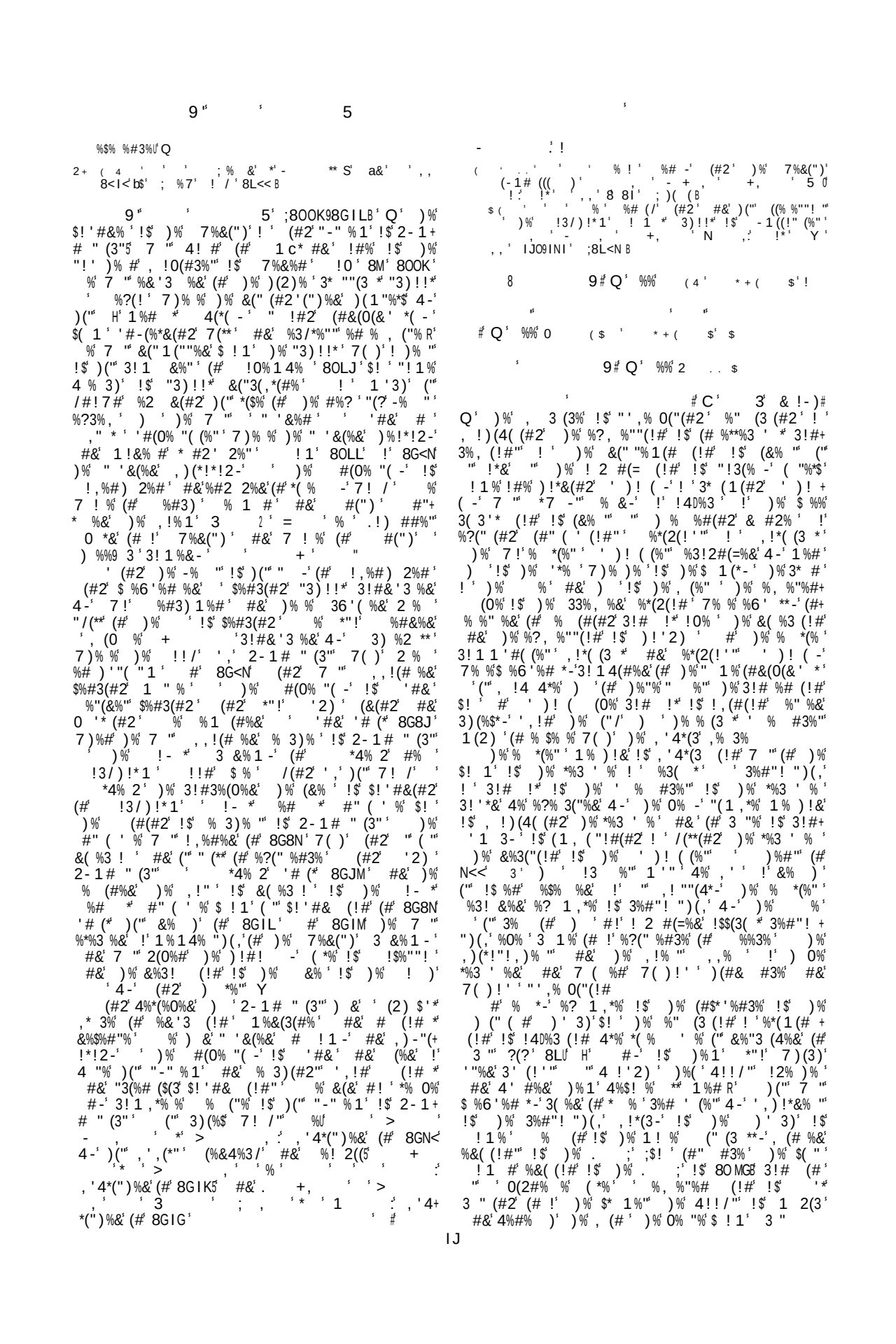

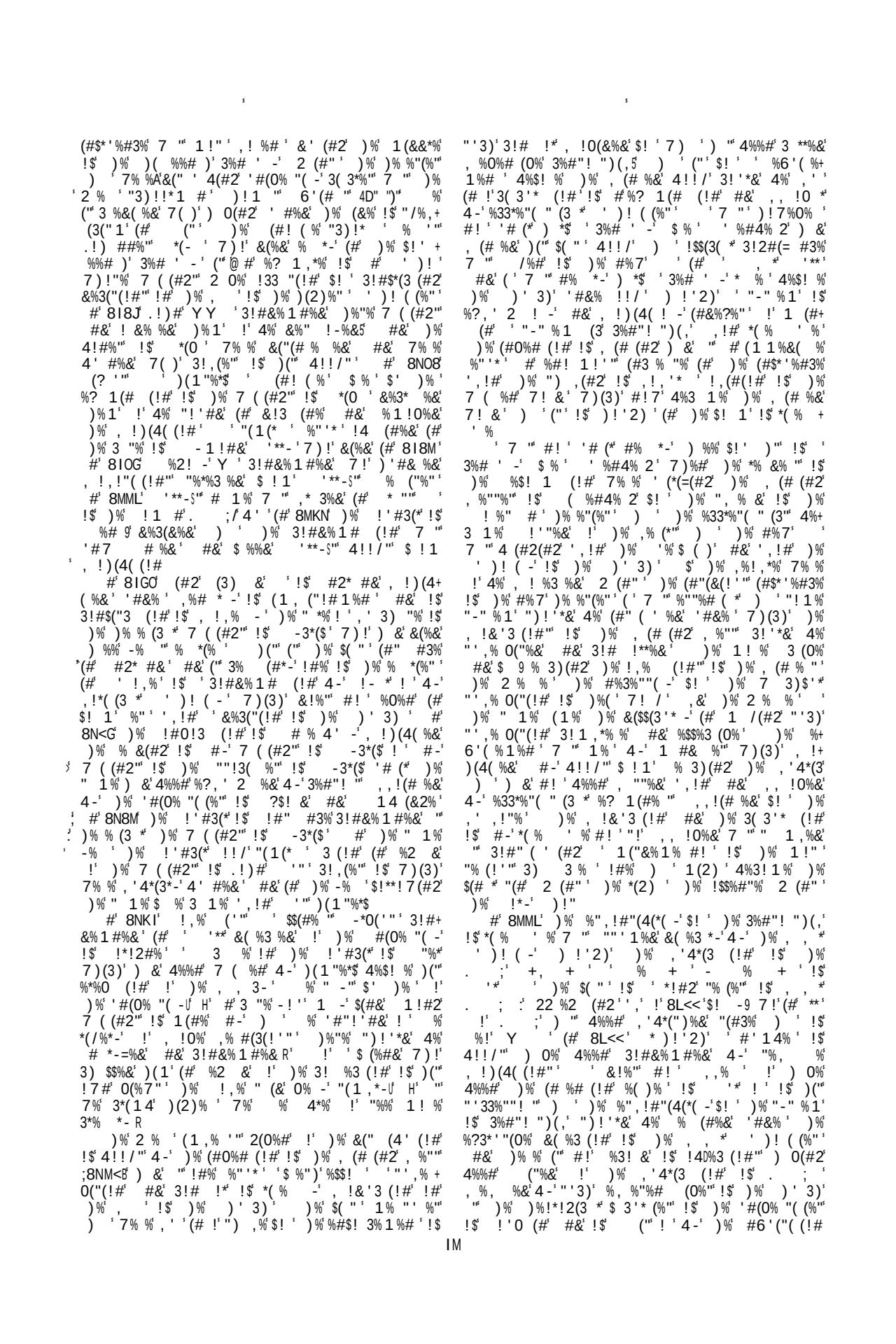

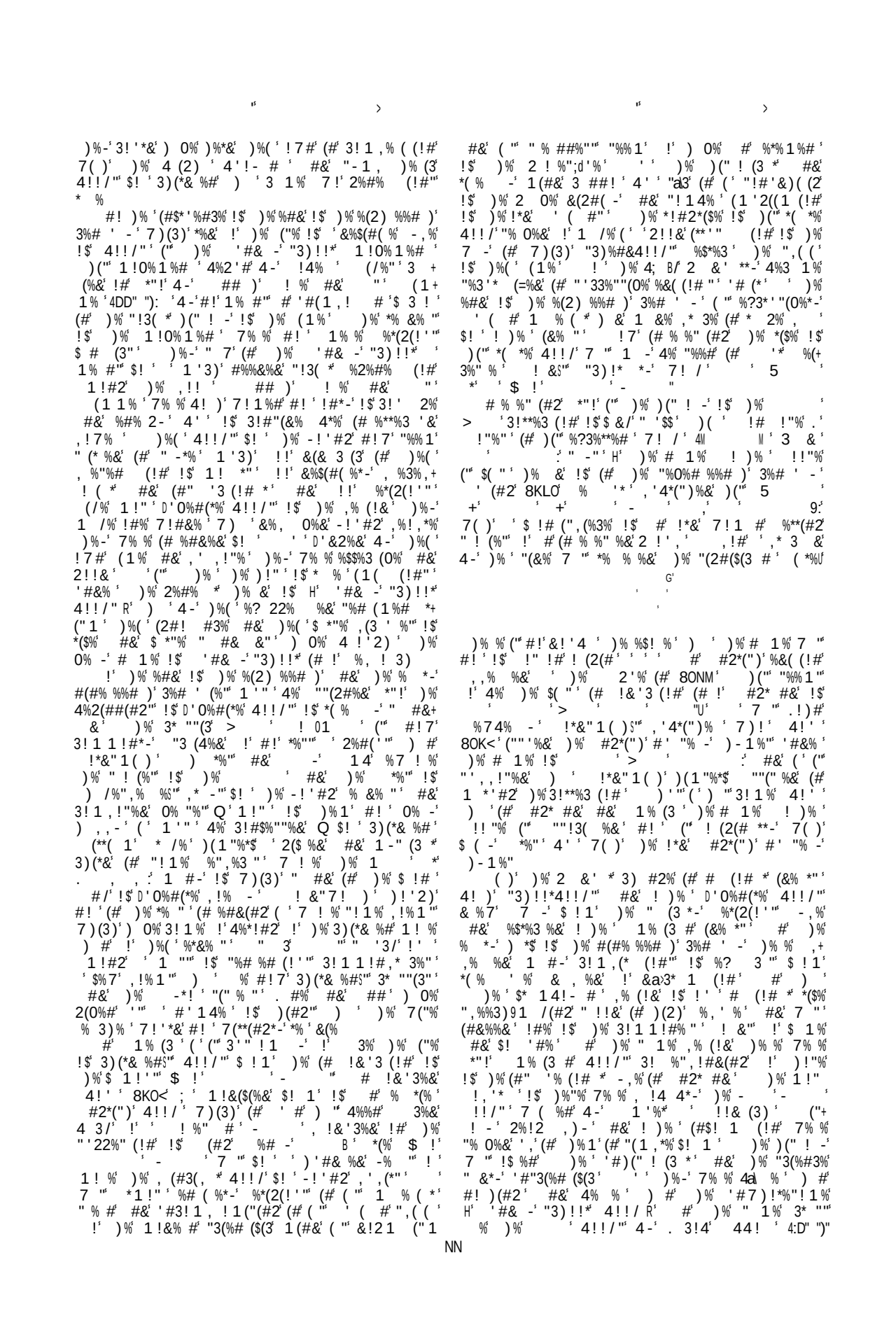

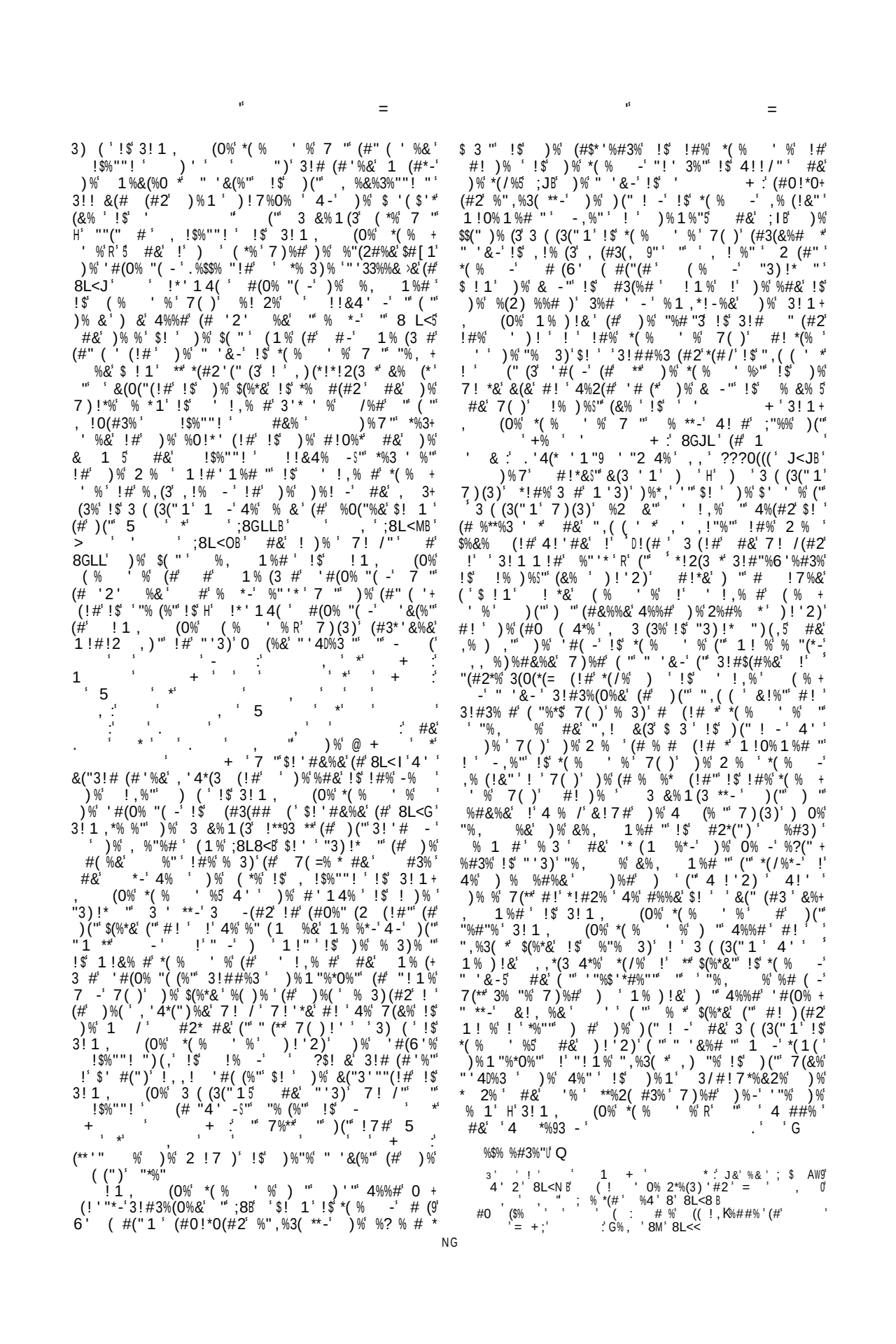

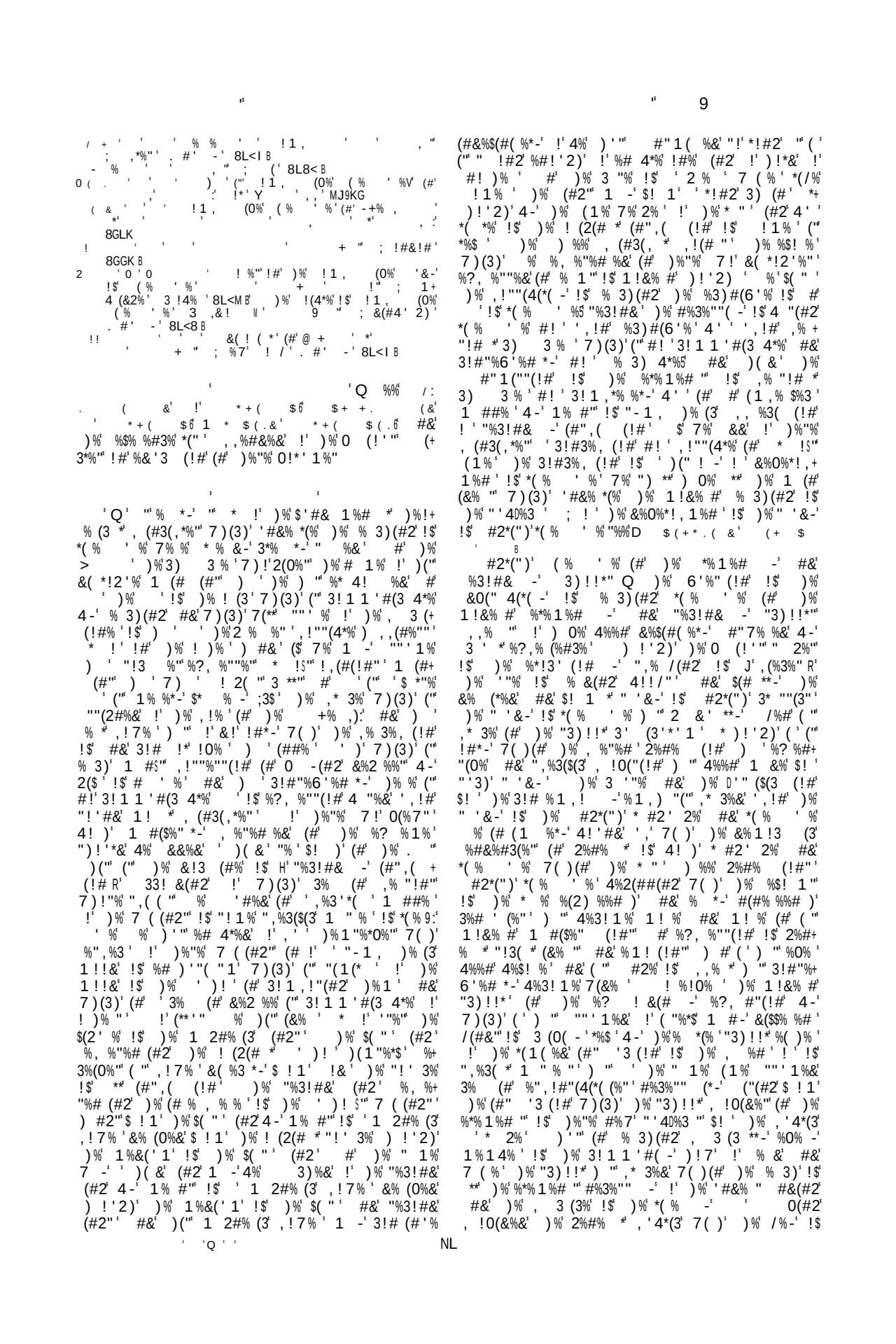

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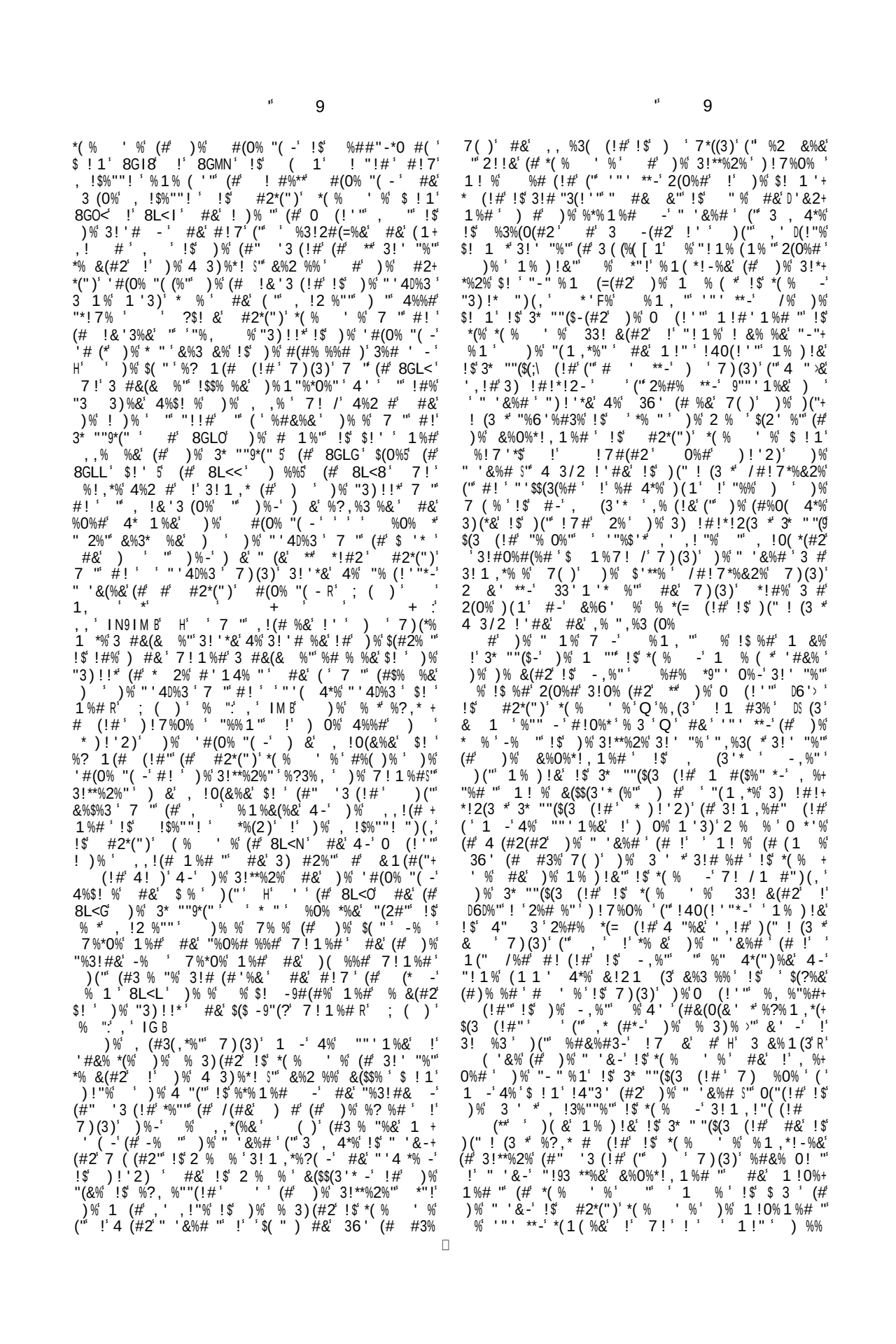

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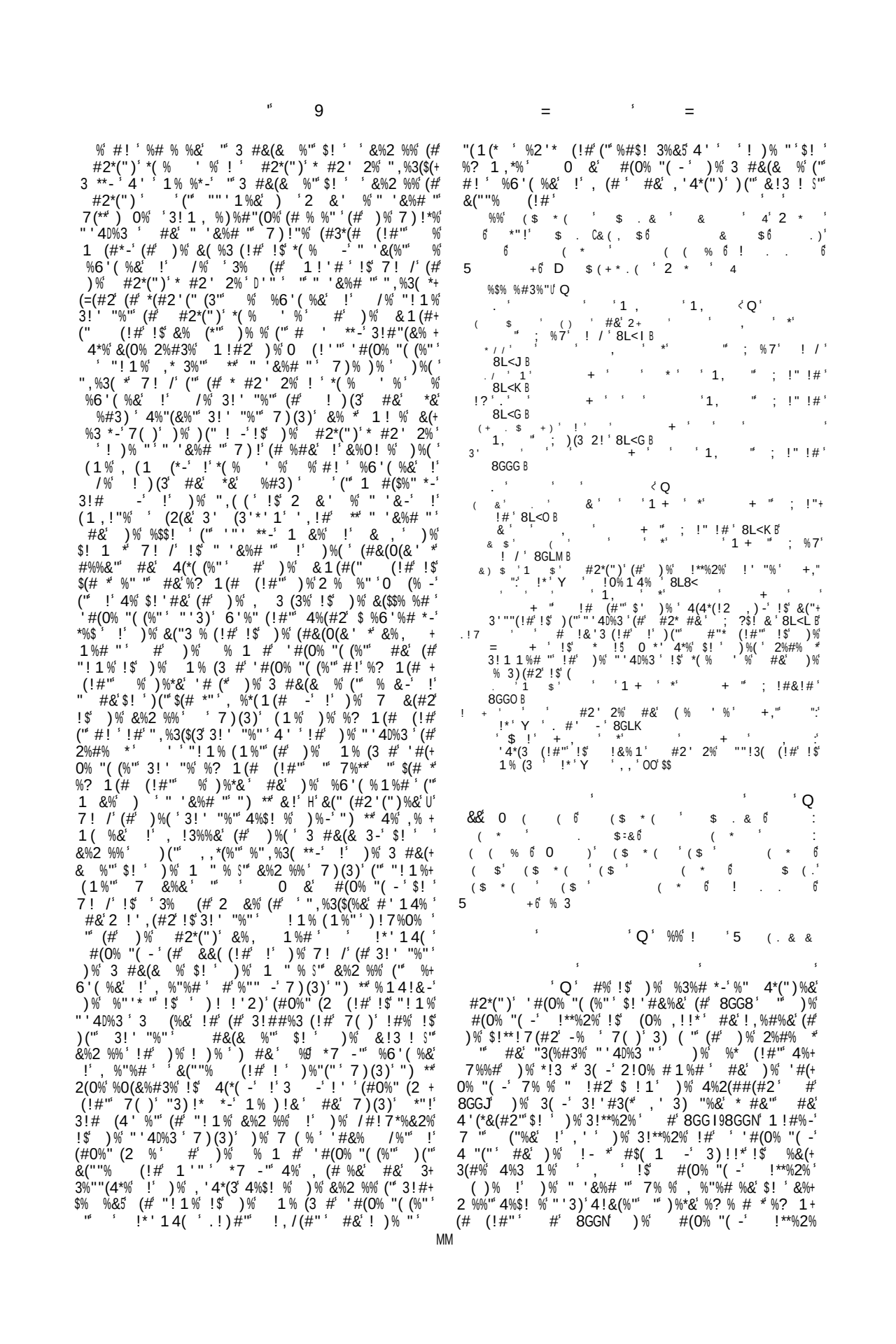

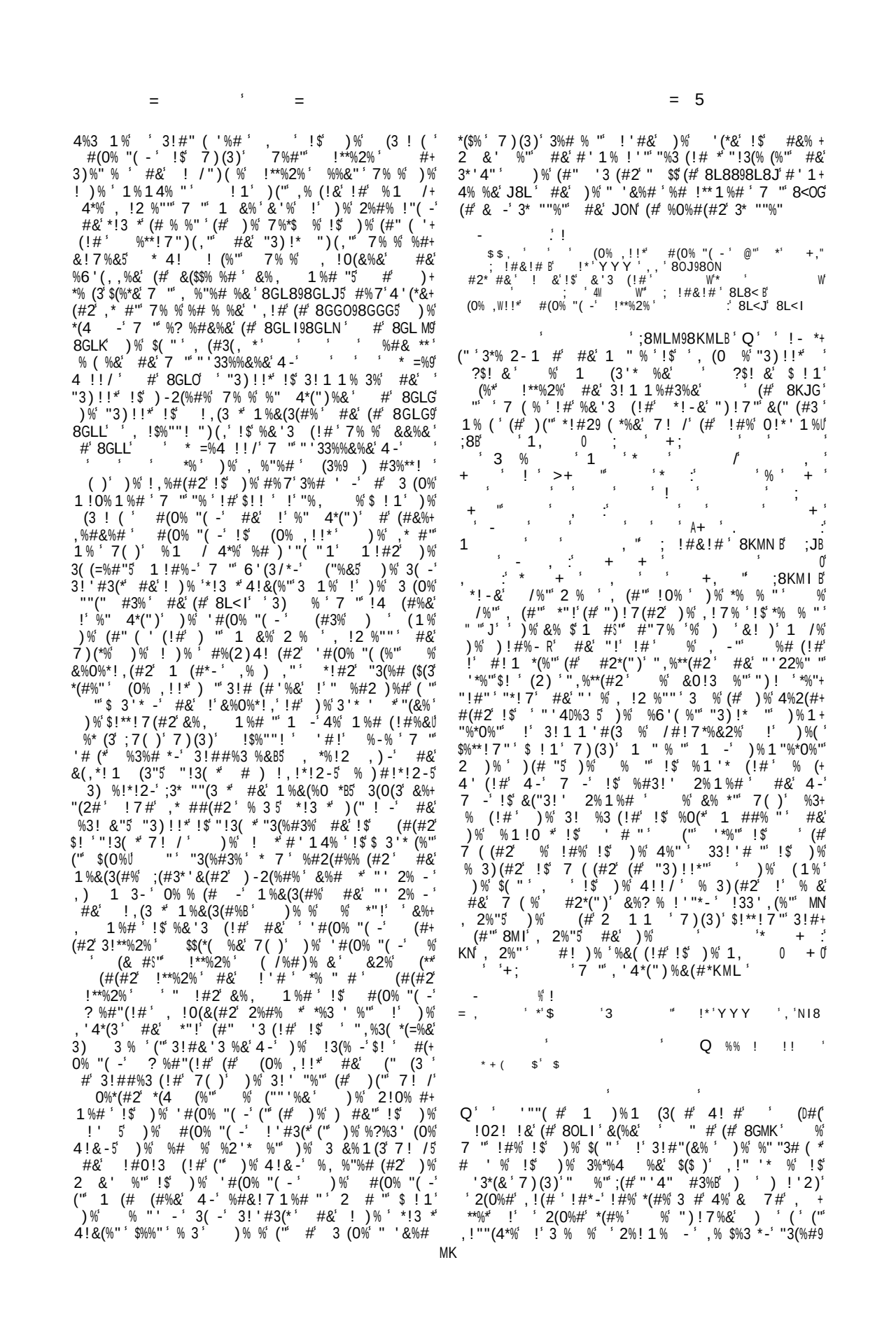

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who wish to introduce it early, and there are others who wish to treat it very extensively.

In general, however, it has been recognized that the subject is one of relatively recent development in the history of geometry, and that it requires relatively greater powers of abstraction than the study of the other fundamental concepts of the subject, such as the congruance of triangles. On this account it is generally placed not earlier than the end of the first book of a geometry arranged on the Euclidean model. While it is a very extensive subject, it is felt that it does not lead to the definite and usable results that characterize the geometry that has been inherited from Euclid and Legendre, and that therefore the place for elaborate treatment is in the general literature that a mathematician should study rather than in a textbook on the elements. When the student reaches analytic geometry (*q.v.*), he necessarily takes up an extended treatment of the subject, since conics are usually studied at present as loci instead of as sections of a cone. D. E. S.

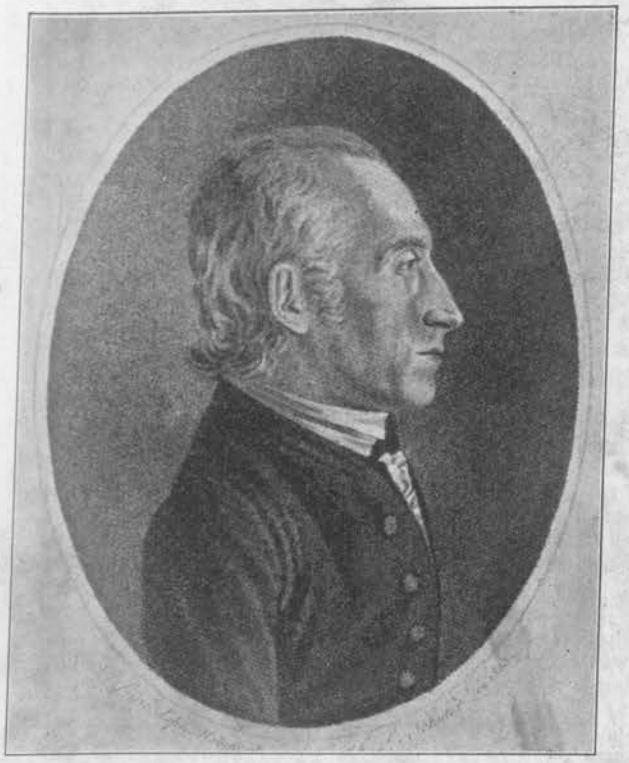
LOCKE, JOHN (1632–1704). —Locke came of Puritan parents and through his long life was associated with the influences making for liberality and tolerance in matters of opinion and action. After six years in Westminster School, he entered Oxford in 1652. His original inclination seems to have been toward the Church, but this he abandoned on account of his growing sympathy with free inquiry and his interest in experimental studies. After a year spent as secretary to Sir Walter Vane on a mission to the Elector of Brandenburg, Locke returned to Oxford in 1666 and studied medicine, but did not take a degree. His studies, however, laid the foundation for his friendship with Boyle (*q.v*) and Sydenham and stimulated his interests in the experimental method of research. In 1667 he became associated with the family of Lord Ashley, afterward the Earl of Shaftesbury. Here he acted as physician, confidential adviser, and tutor. The connection afforded him opportunities to exercise his political skill and secured for him several important posts. He was involved, however, in the fall of Shaftesbury and escaped to Holland in 1683 where he remained for six years. After 1691 he resided in the family of Sir Francis Masham at Oates in Essex, where he ended his days in the enjoyment of generous friendship and public esteem.

The complete list of Locke's writings is as follows: *Letters concerning Toleration*, 1689, 1690, 1692, 1706 (posthumous); *Two Treatises on Government*, 1690; *Essay concerning Human Understanding*, 1690; *Some Thoughts concerning Education*, 1693; *The Reasonableness of Christianity*, 1697; *Conduct of the Understanding*, 1706 (posthumous); *Some Thoughts concerning Reading and Study for a Gentleman*, 1706; *Instructions for the Conduct of a Young Gentleman*, 1706; *Of Study*, published in L. King's *Life of Locke*, 1830; the plan for *Working Schools* may be found in H. R. Fox-Bourne's *Life of John Locke*, Vol. II, pp. 377–390.

Locke's chief distinction is as a contributor to philosophy. His *Essay concerning Human Understanding* is one of the significant books in the development of modern thought. In it the philosophy of empiricism receives its first important and thoroughgoing statement. In method and results it was revolutionary. It proposed an inquiry "into the originals, certainty, and extent of human knowledge, together with the grounds and degrees of belief, opinion, and assent" with a view to discovering "how far the understanding can extend its view, how far it has faculties to attain certainty, and in what cases it can only judge and guess," in order that "we may learn to content ourselves with what is attainable by us in this state" (Bk. I, Ch. 1, 4). This inquiry was not to be based on assumed principles but principles supposed to be innate or the natural possession of the mind. It was to proceed rather under the supposition that all knowledge whatsoever is acquired by experience, experience of the outer world through the senses and of the inner world of mind through reflection on what the senses offer. Knowledge was to be viewed as an individual acquisition and to be tested and estimated through the consideration of the way that knowledge is acquired. Thus the genetic, or as Locke calls it, the "historical, plain," method of viewing experience was given its first important formulation.

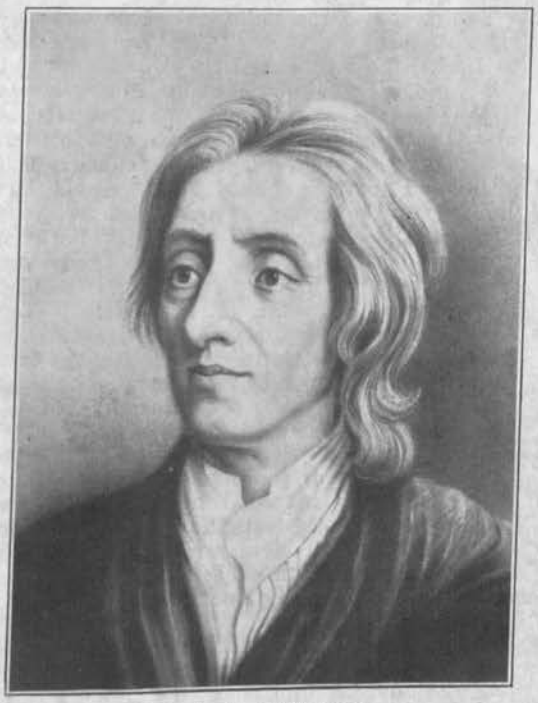
The results of the inquiry were no less significant than the method. Since, according to Locke, the senses mediate between us and the world, all our knowledge finds its originals in the ideas the senses give us and is conversant about nothing else. All that we can do is to reflect on these ideas, compare them, distinguish them, and combine them. Knowledge is thus limited to the extent of the ideas we have and to the discoverable relations between them. It extends no farther and can never carry us beyond the limits set by the genetic character of experience. Yet, even so, knowledge, if we mean absolutely certain knowledge, is inadequate for the concerns of life. It must be supplemented by judgment or belief whereby we entertain probable convictions for our guidance in a world which we can know only imperfectly. In all matters of probability our judgment is influenced by the conformity of our convictions with our experience or by the testimony of the experience of others. These ideas are developed in the *Essay* with a wealth of detail and suggestion which have made the book a classic in philosophical literature.

Locke's *Thoughts on Education*, which originally consisted of letters addressed to Edward Clarke advising him about the training of his son and which do not profess to deal with educa-



Jean Frederic Oberlin (1740–1826).
See page 522.

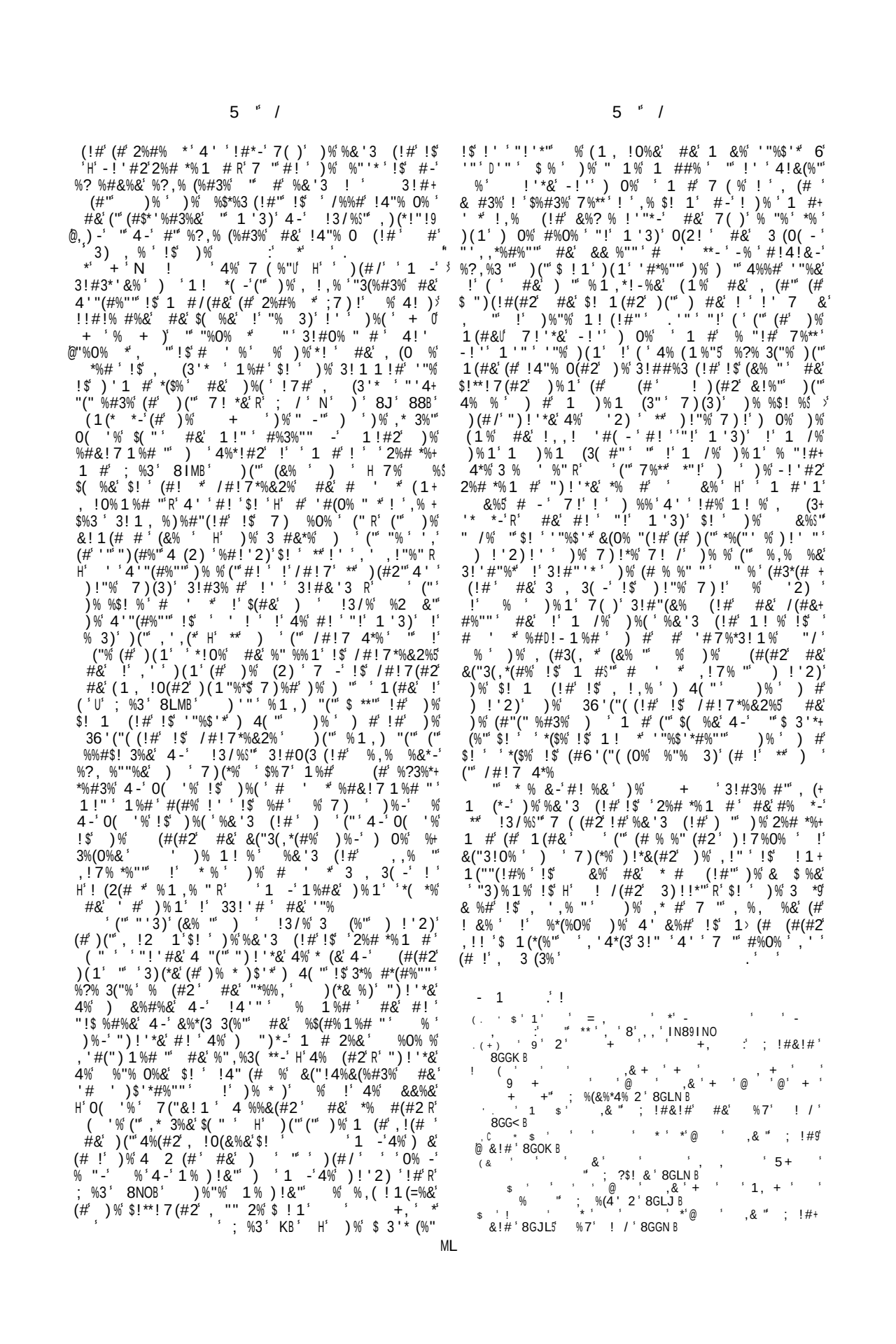
Ignatius Loyola (1491–1566).
See page 91; also Vol. III, p. 533.

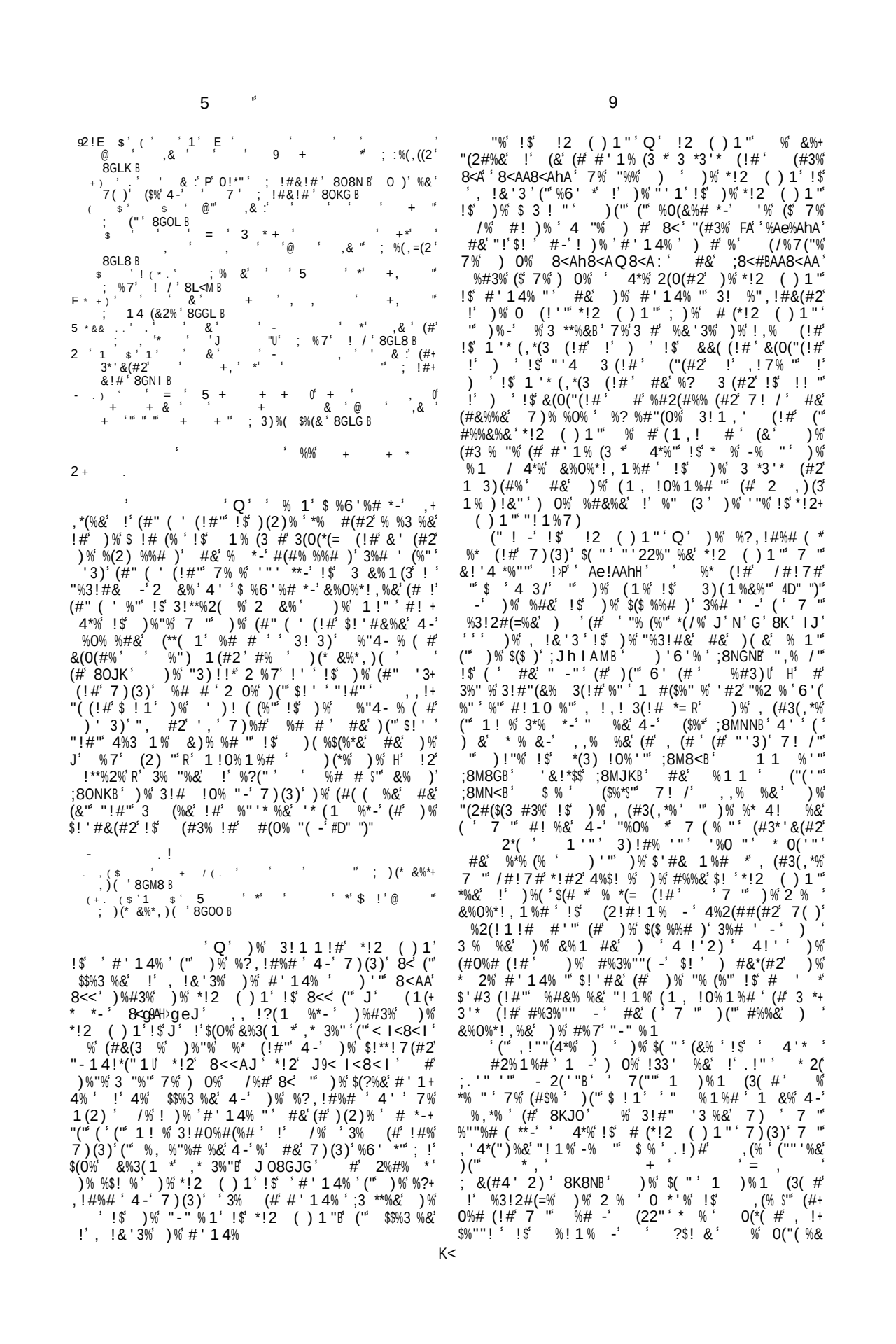


John Locke (1632–1704).
See page 58.

Johann Heinrich Pestalozzi (1746–1827).
See page 655.

A Group of Educational Reformers.





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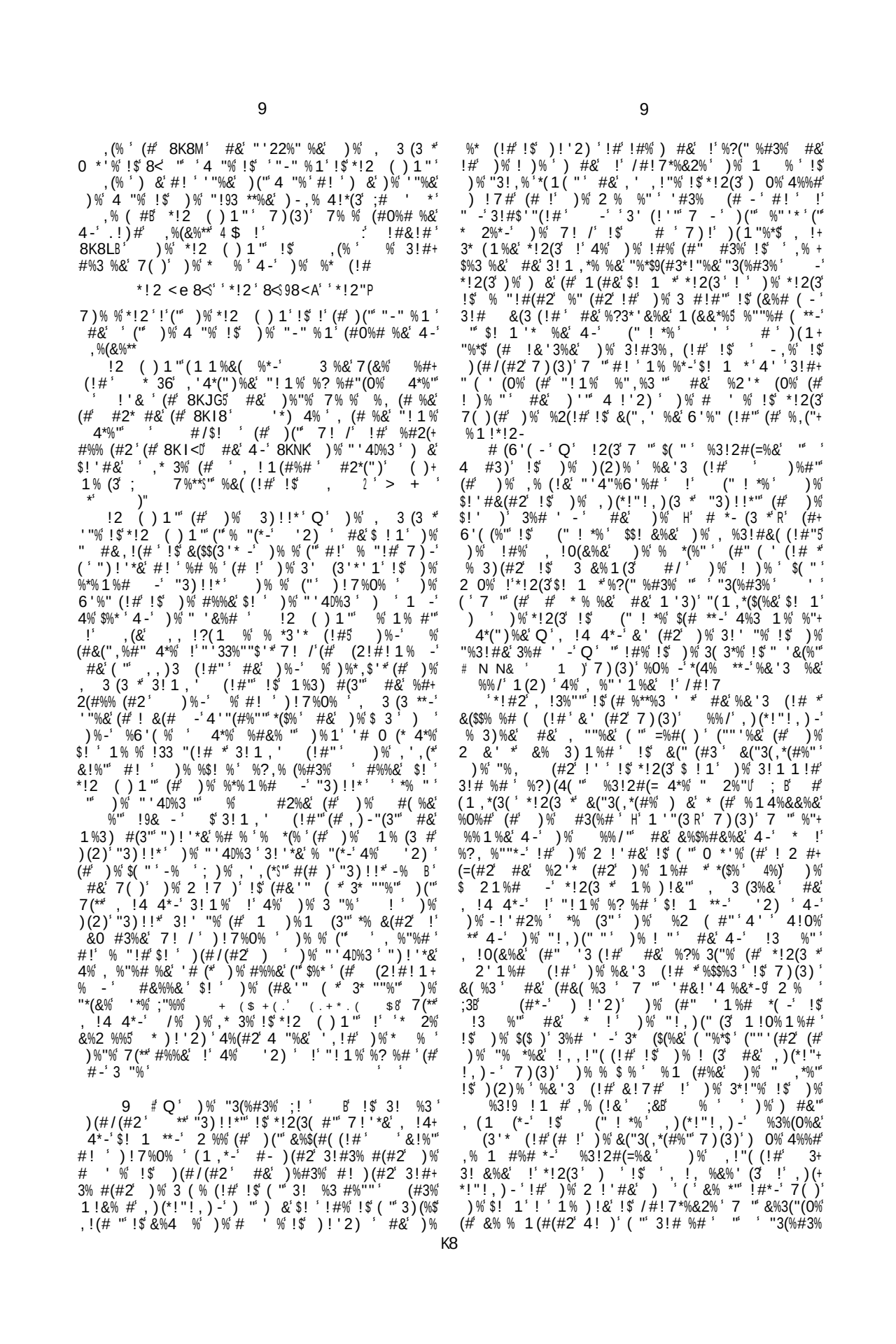

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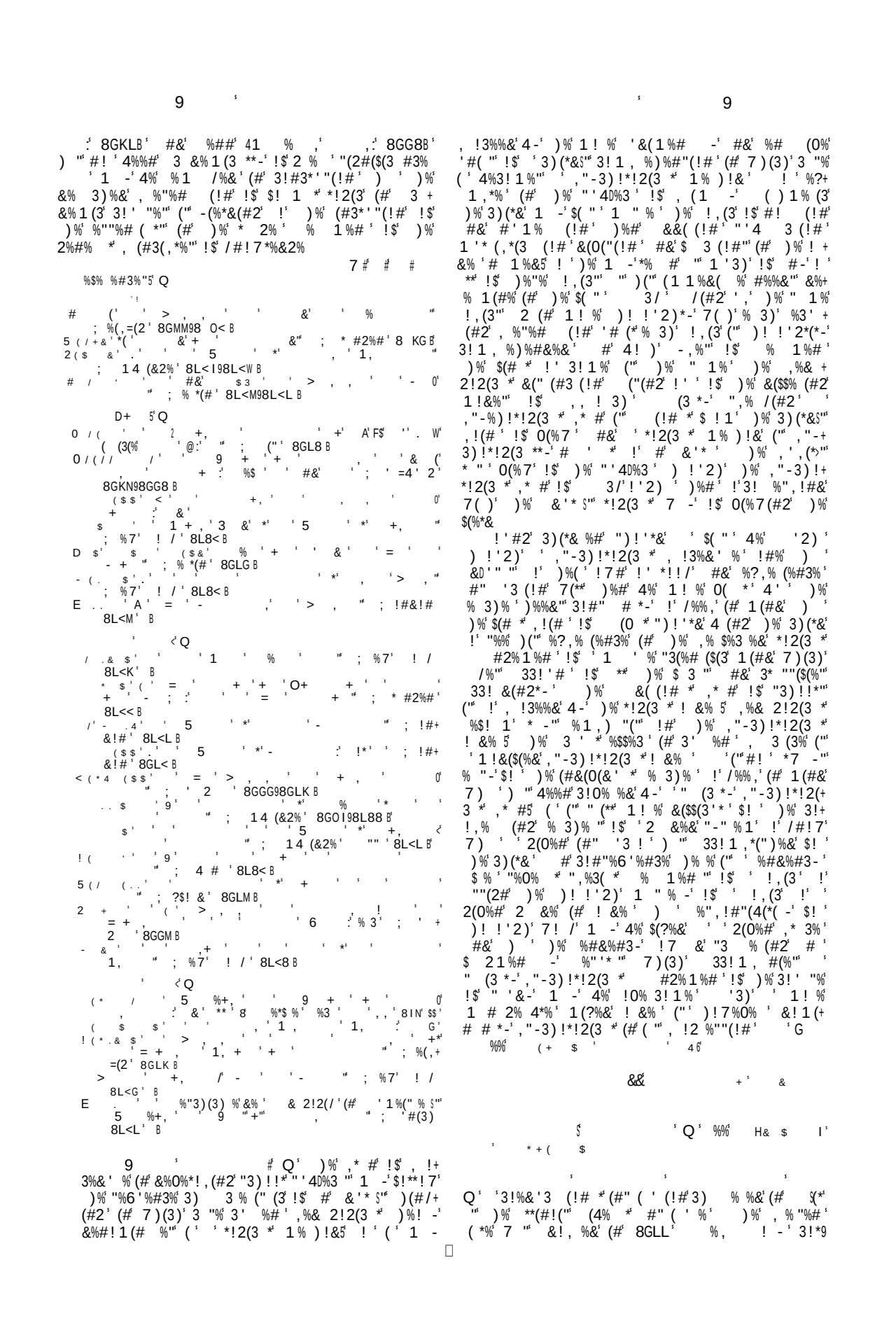

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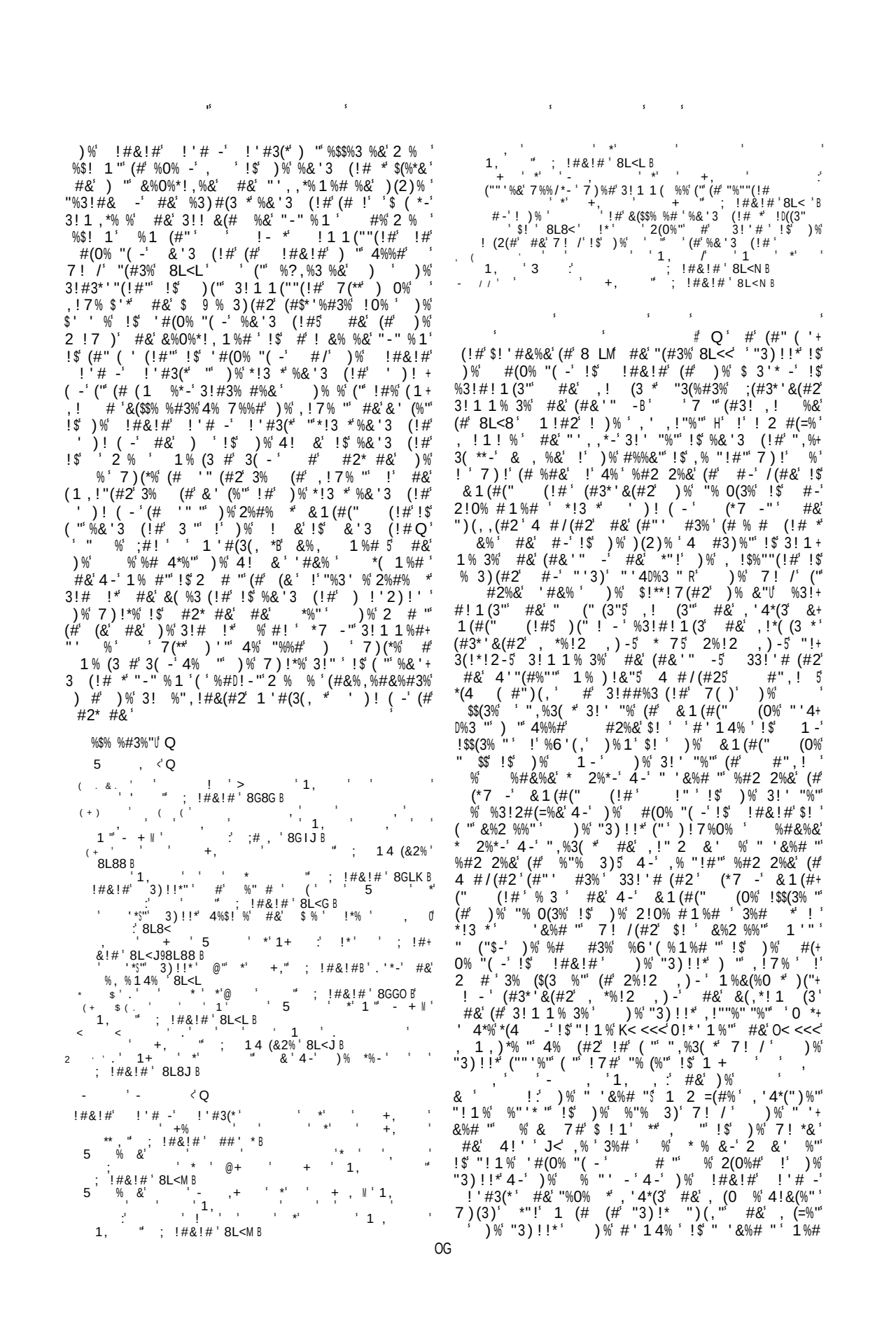

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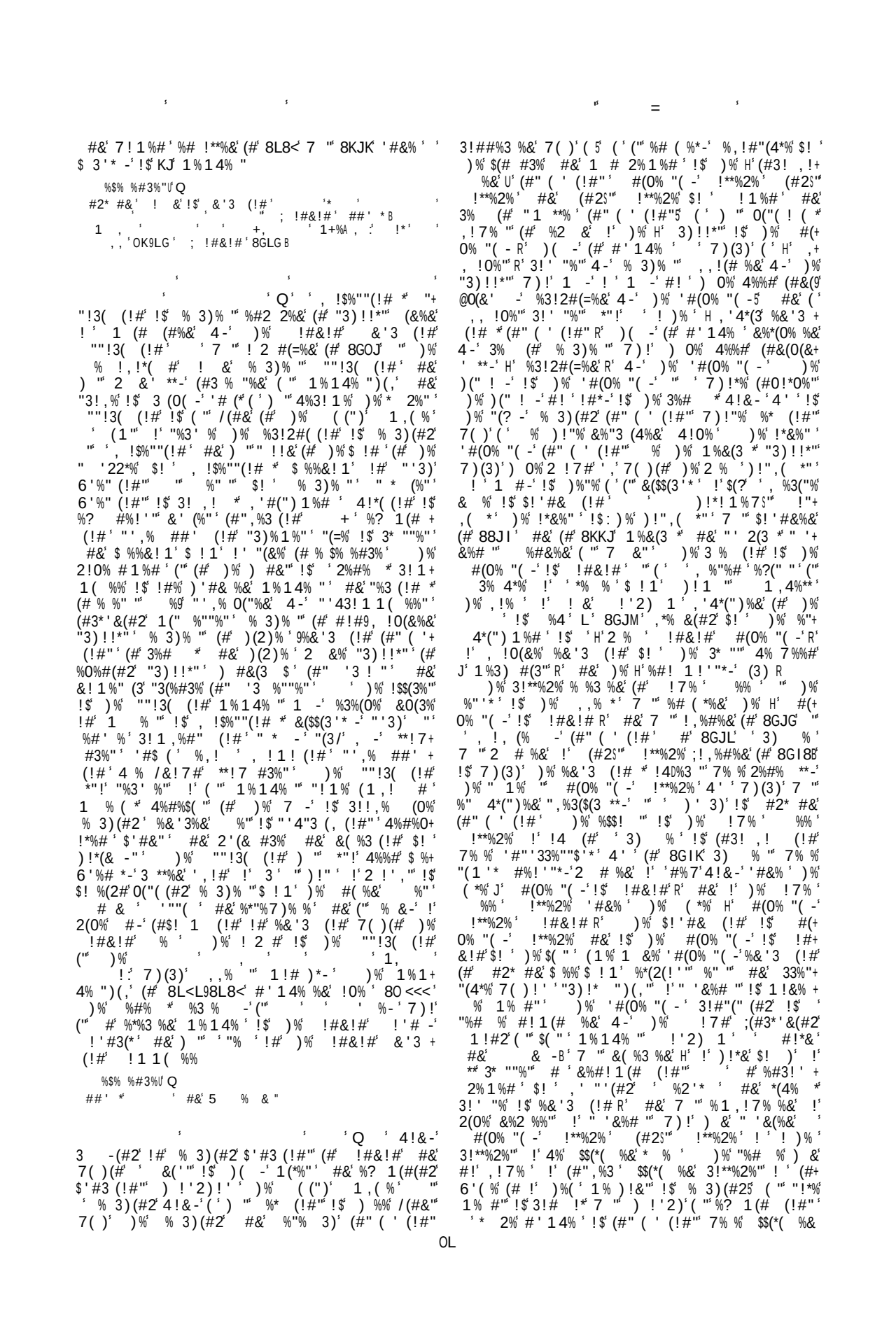

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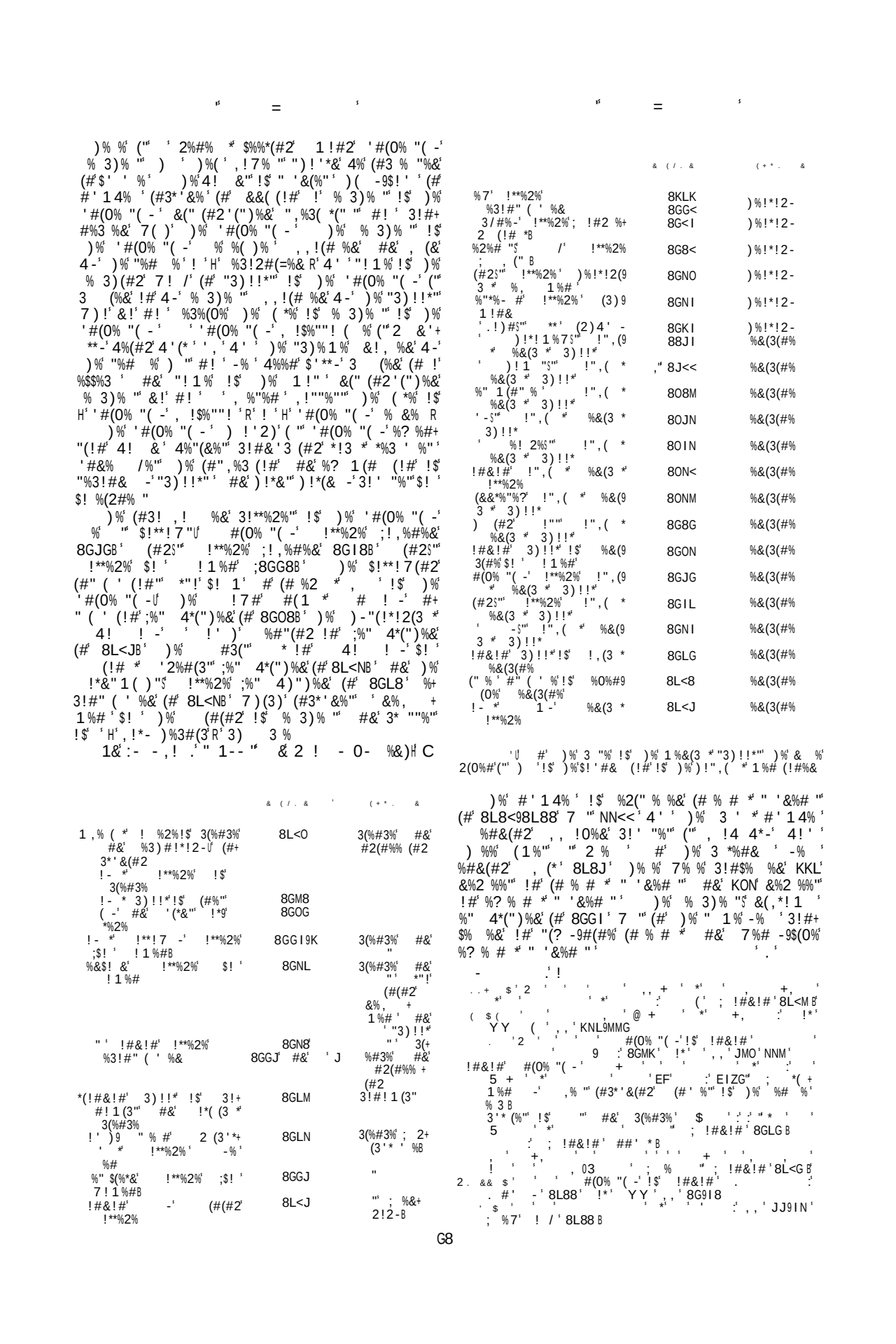

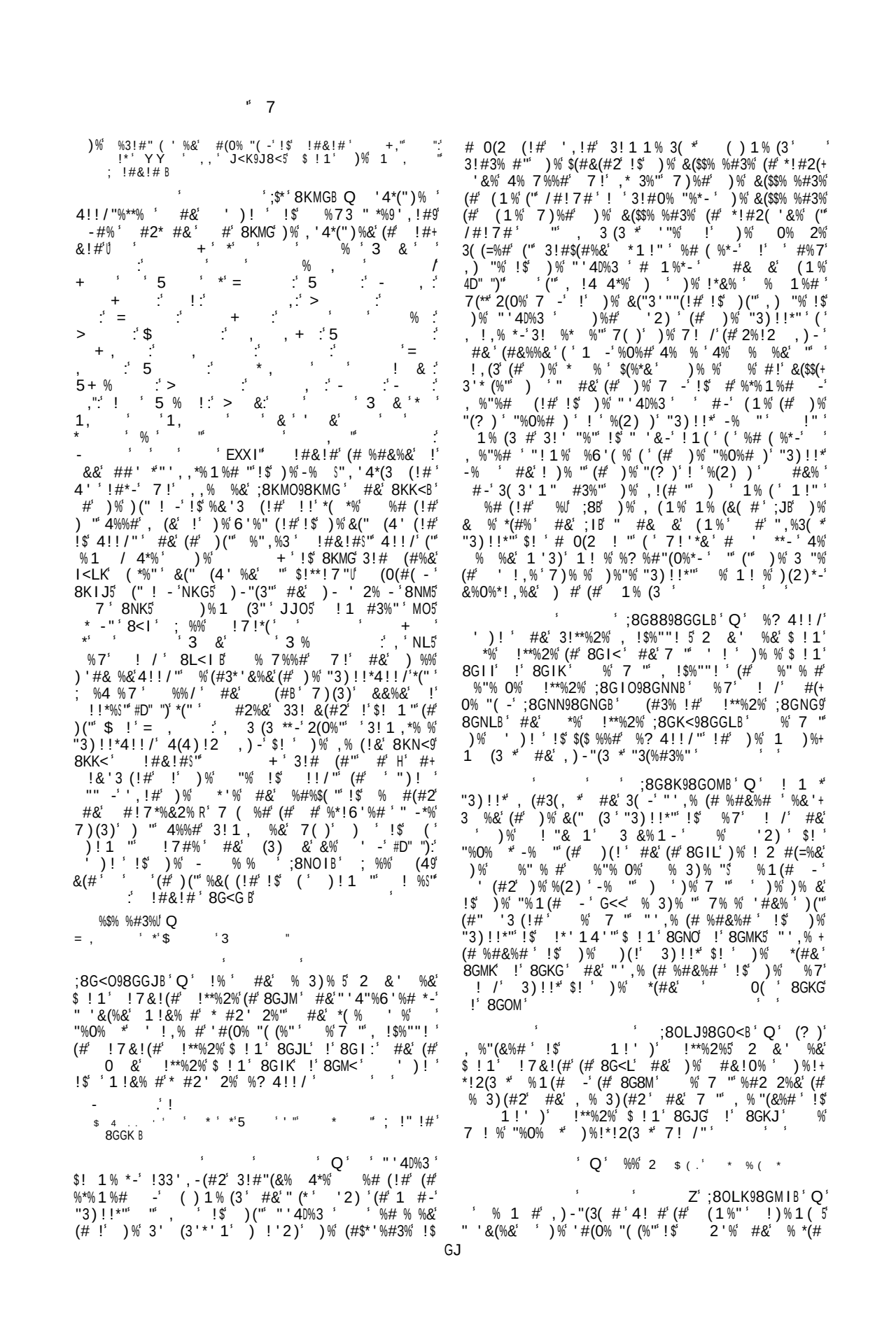

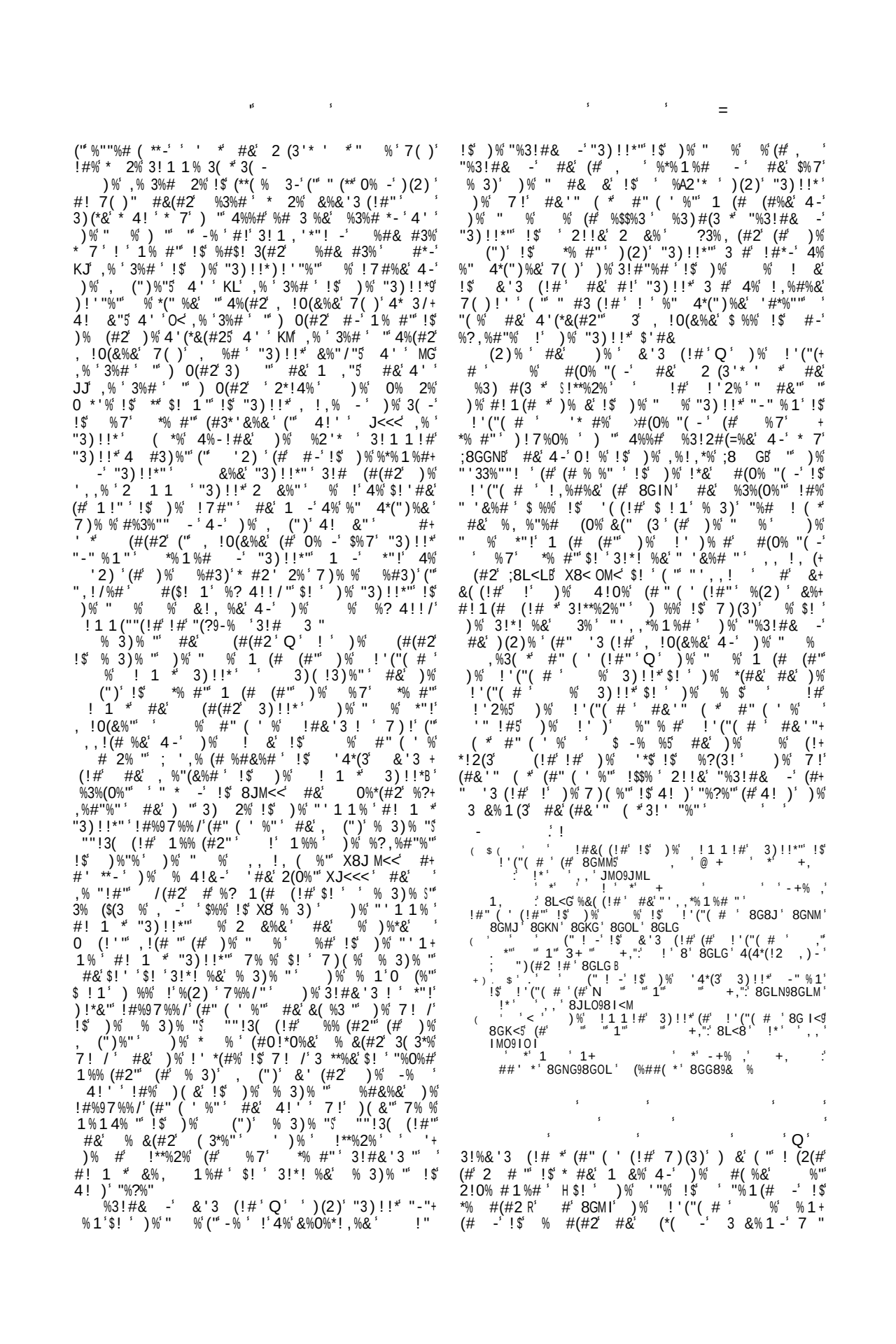

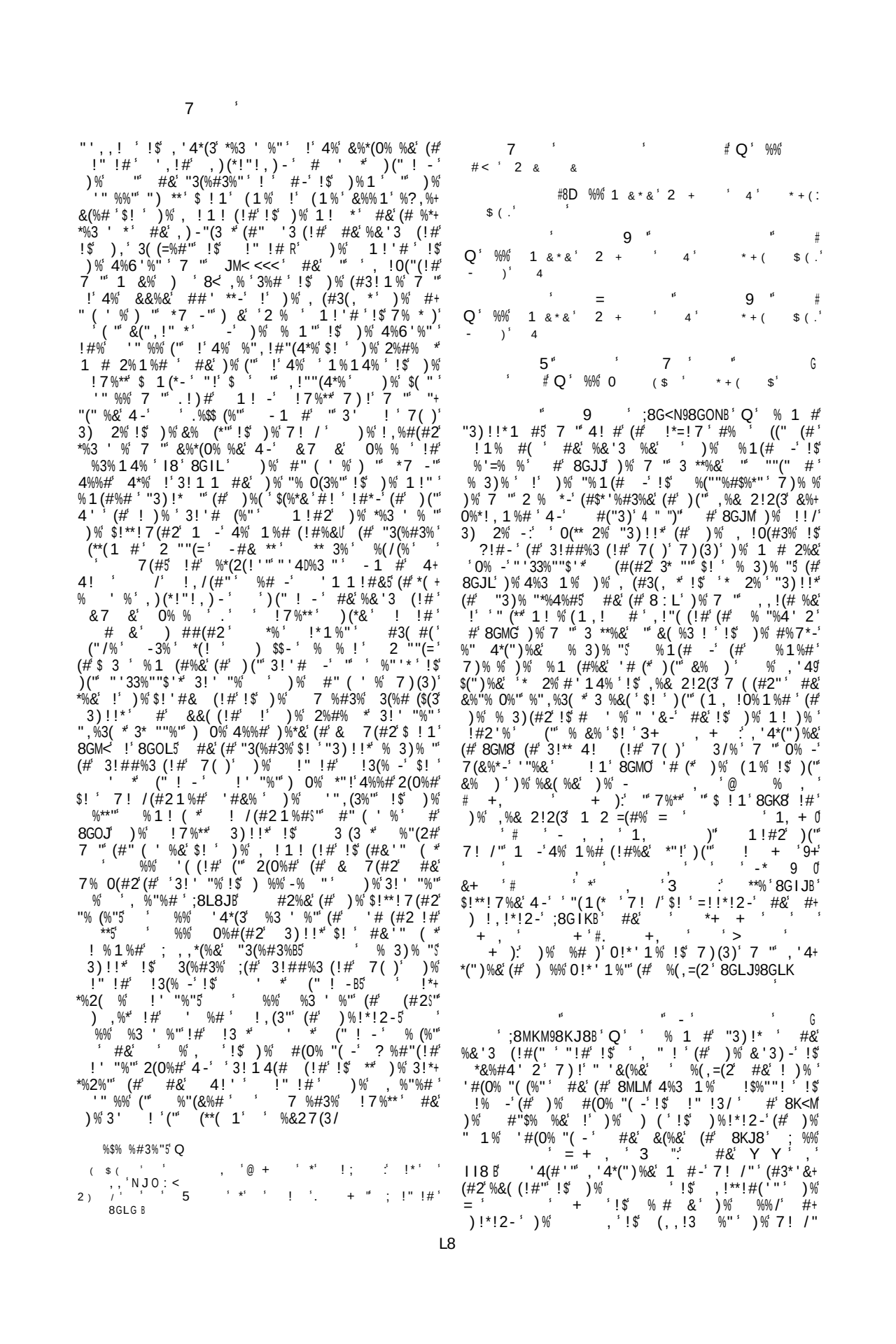

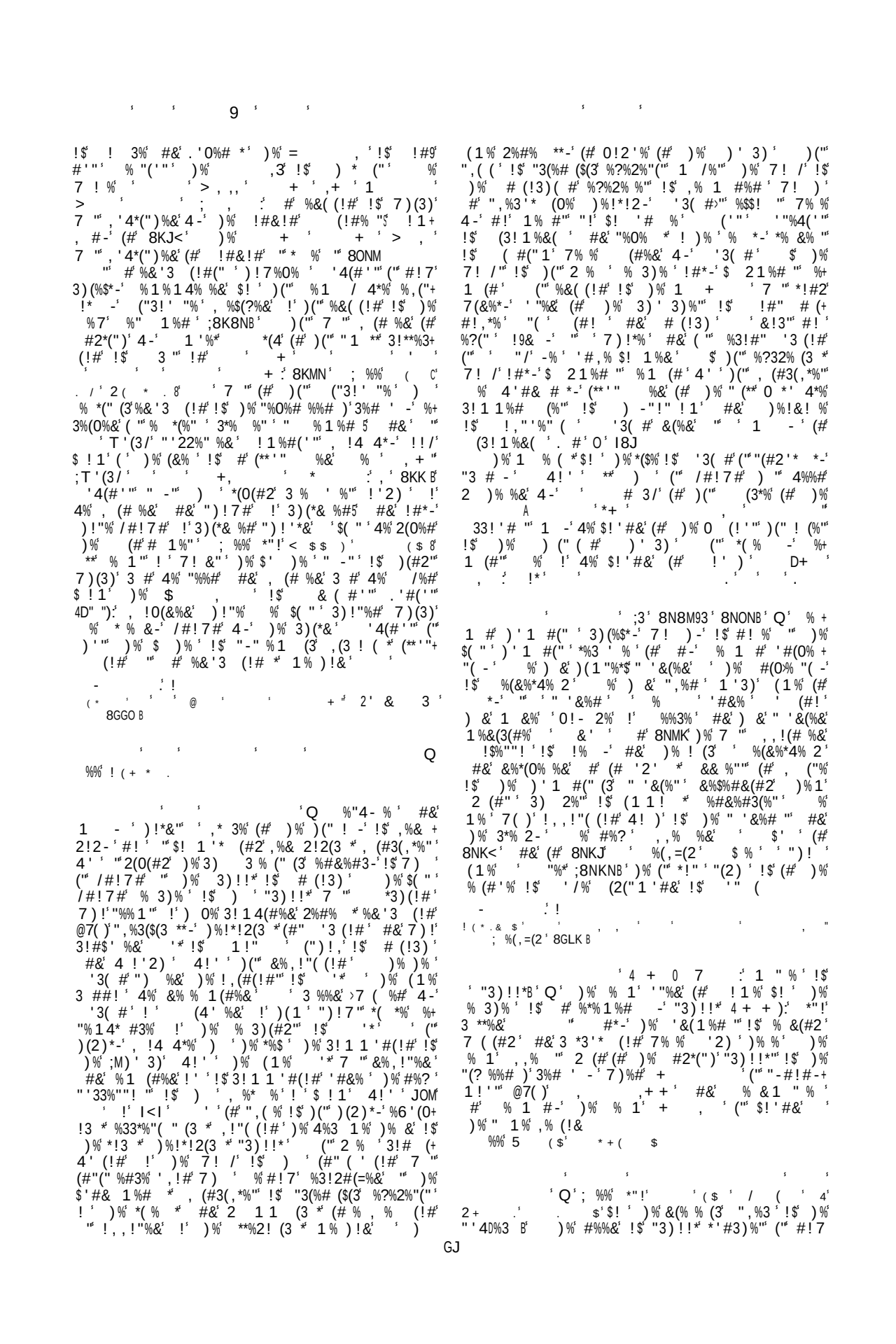

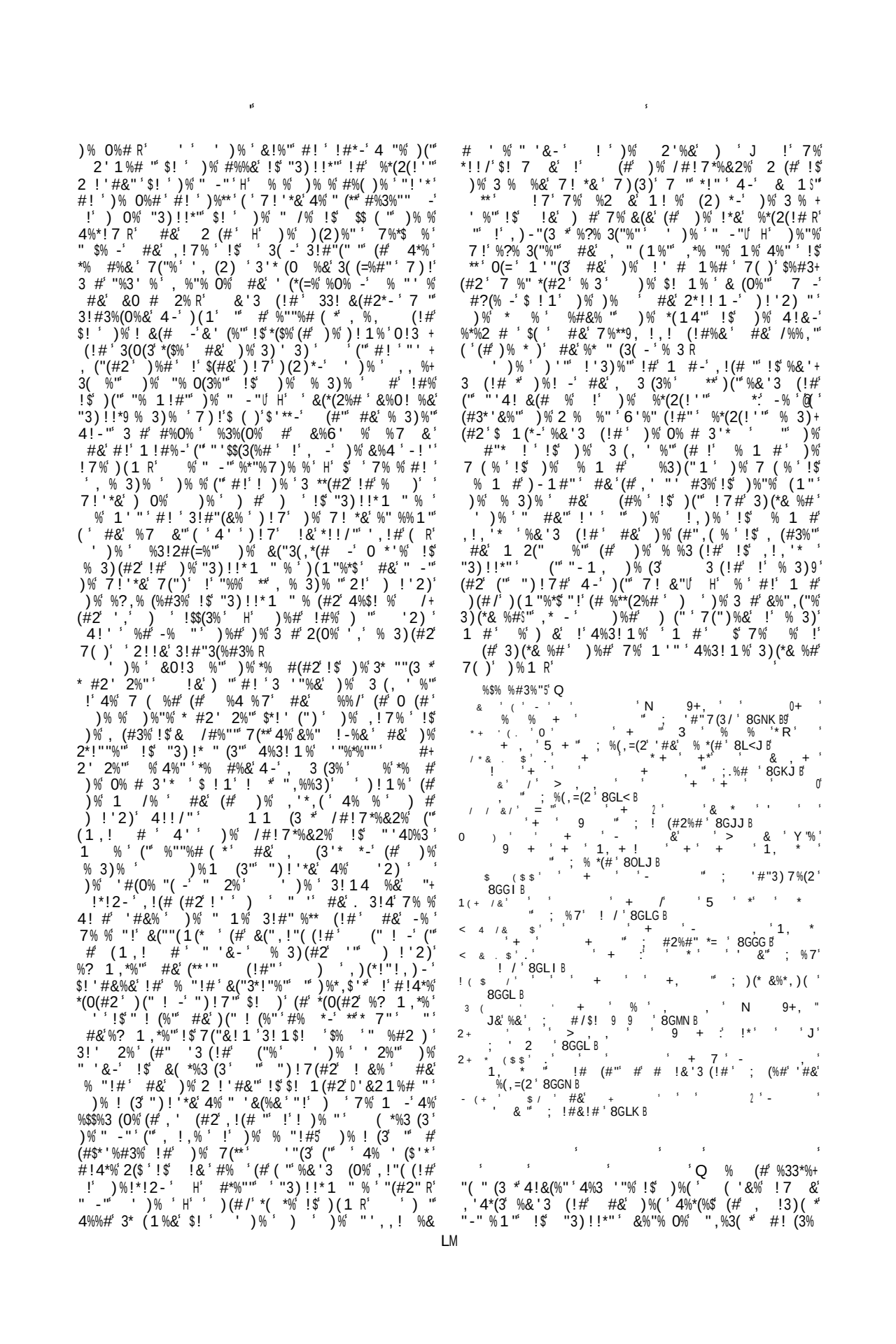

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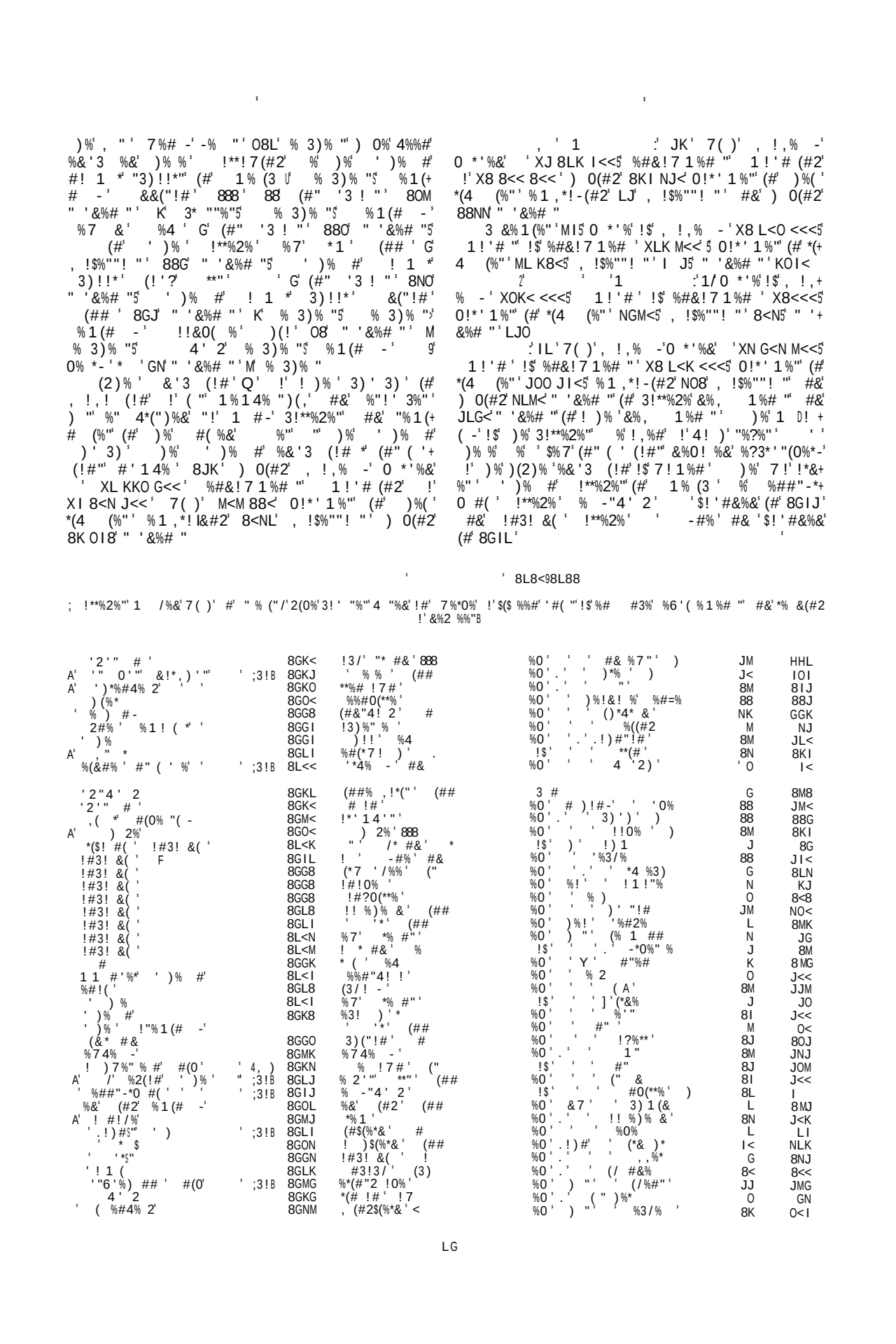

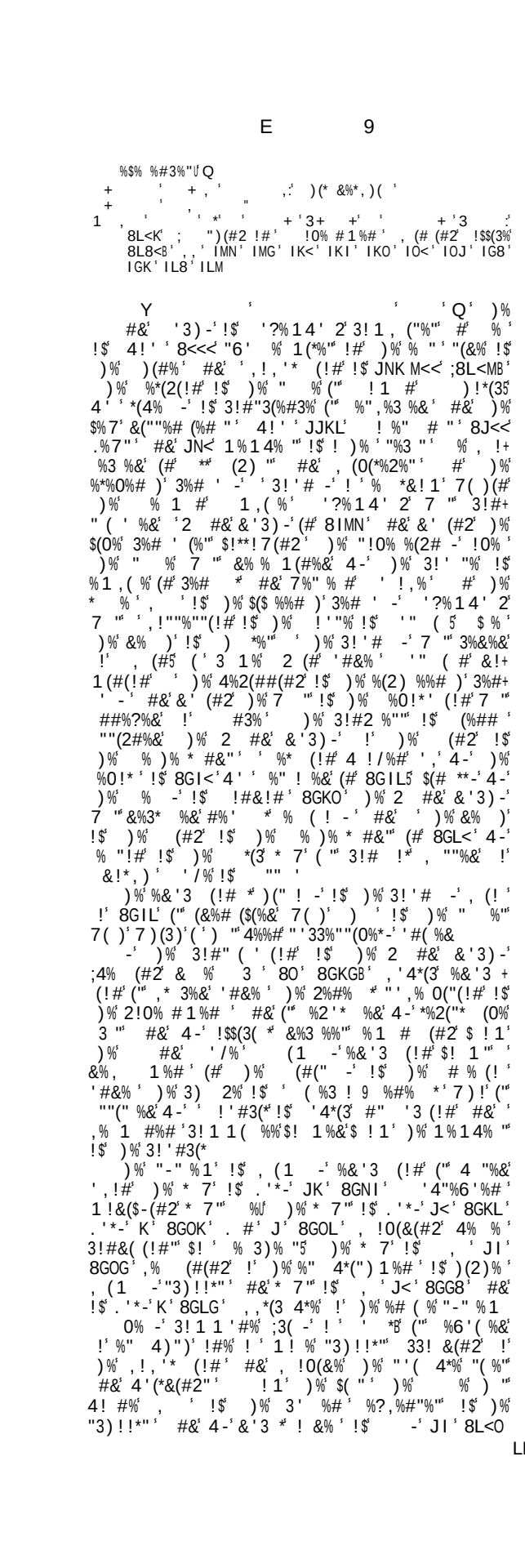

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Mary Lyon (1797–1849).
See page 101.

Bertha von Marenholtz-Bülow (1810–1893).
See page 139.

Alice Freeman Palmer (1855–1902).
See page 596.

Hannah More (1745–1833).
See page 317.

A Group of Women Educational Leaders.

Rapport général sur la Situation de l'Instruction primaire dans le Grand Duché de Luxembourg pendant l'Année scolaire, 1907–1908, 1908–1909.

LYCEE. — See FRANCE, EDUCATION IN; LYCEUM; GYMNASIUM.

LYCEUM MOVEMENT IN THE UNITED STATES. — Josiah Holbrook (*q.v.*), who started the lyceum movement at Millbury, Mass., in 1826, stated its purposes as follows: (1) The improvement of the common schools; (2) the formation of lecture courses and the establishment of classes for the education of adults; and (3) the organization of libraries and museums. The first purpose became the chief feature of the American Lyceum Association (*q.v.*). The chief outcome of the lyceum movement *per se* was the organization of lecture courses in many cities and towns and the establishment of libraries. By 1831 there were 900 towns in the United States with local lyceum organizations. Between 1825 and 1850 most of the public lectures in the country were under such local organizations; and this feature of the lyceum movement continued prominent down to 1880. Wendell Phillips, one of the early lyceum lecturers, is said to have given his lecture on "The Lost Arts" two thousand times before lyceum audiences. Lowell Institute (*q.v.*) in Boston and the Brooklyn Institute (*q.v.*), both of which grew out of the lyceum movement, are still in existence.

Many town libraries were also formed by local lyceum associations. The Mercantile Library Association of Boston, composed of merchants and clerks in a local lyceum association, as well as the libraries of the mechanics institutes in many American cities, and the societies for the diffusion of useful knowledge interested in lecture courses and the establishment of libraries and museums, were organized and directed by the men connected with the American Lyceum Association. In recent times this movement has been replaced by the Chautauqua movement and the University Extension (*qq.v.*). In some respects public lecturing has become more closely allied with public amusement than with education. At present in the United States there are about 12,000 towns and cities organized as lyceum centers. More than 40 lyceum bureaus furnish specialists who devote all or part of their time to this purpose, more than 750 of whom are organized with the International Lyceum Association. W. S. M.

LYCURGUS. — The Spartan lawgiver to whom is attributed the rigorous Spartan constitution. He is reputed to have lived in the ninth century B.C. It is, however, generally accepted now that the Spartan code was the result of laws and customs which had accumulated during centuries, and that Lycurgus was a mythical personage. It is clear that the constitution was not attributed to him until the end of the fifth century. Nor does the Spartan poet, Tyrtæus, make mention of him. It seems probable that Lycurgus was a local hero or deity worshiped as the protector against wolves (*Lyko-vorgos*, wolf-repeller), and that the code was attributed to him on the analogy of the lawgivers of later times.

See GREECE, ANCIENT.

Reference: —

BURY, J. B. *History of Greece.* (London, 1909.)

LYON, MARY (1797–1849). — Founder of Mount Holyoke College and a pioneer in the cause of the higher education of women in the United States. Born at Buckland, Mass., she was largely self-educated, as there were few opportunities in her girlhood for the secondary and higher education of women. This lack, together with a keen sense of the need, influenced her life and started her upon a career of educational reform that has given her rank among the greatest women America has produced. She attended the district schools in rural Massachusetts, and by the age of seventeen she was teaching in a common school near Shelburne Falls at a wage of seventy-five cents a week "with board." At the age of twenty she entered the Sanderson Academy at Ashfield, and during the next four years she alternately taught in the common schools and continued her studies at the Sanderson and Amherst academies. In 1821 she entered the higher school for girls conducted by Joseph Emerson (*q.v.*) at Byfield, and the next year she was an assistant teacher in Sanderson Academy. During 1824 and 1825 she taught part of each year in Adams Academy at Derry, N.H., and pursued courses of study for the remainder of the time at Amherst College and the Rensselaer Institute.

From 1826 to 1828 she continued her teaching during the winter at Sanderson Academy and during the summer at Adams Academy, which at this time was under the direction of Mrs. Zilpah Grant Banister (*q.v.*), one of Miss Lyon's teachers in Joseph Emerson's school at Byfield. In 1828 Mrs. Banister organized a seminary at Ipswich, Mass., and during the next two years Miss Lyon taught in the Ipswich Seminary during the summer and took charge of a "select school" at Buckland, Mass., during the winter. She became vice-principal of the Ipswich Seminary in 1830, and during the next four years gave all her time to this institution.

The "select" winter school at Buckland was in a sense the germ of Mount Holyoke. Her school was the resort of many girls who had been, or who expected to become, teachers. Expenses were made as low as possible. Tuition was $3 a quarter, and board was obtained at rates ranging from $1 to $1.25 a week. The philanthropic side of the work appealed strongly to Miss Lyon; and when in

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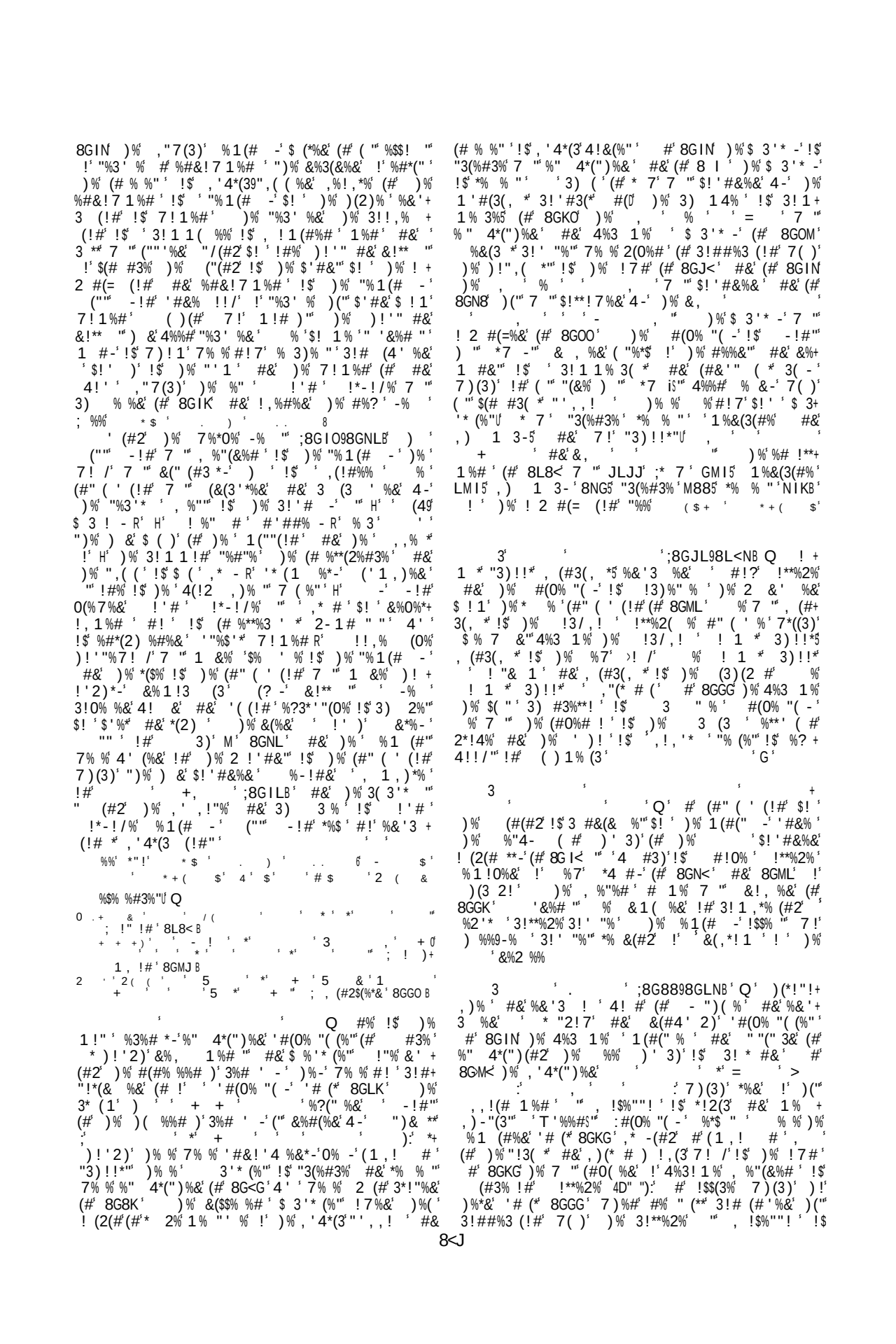

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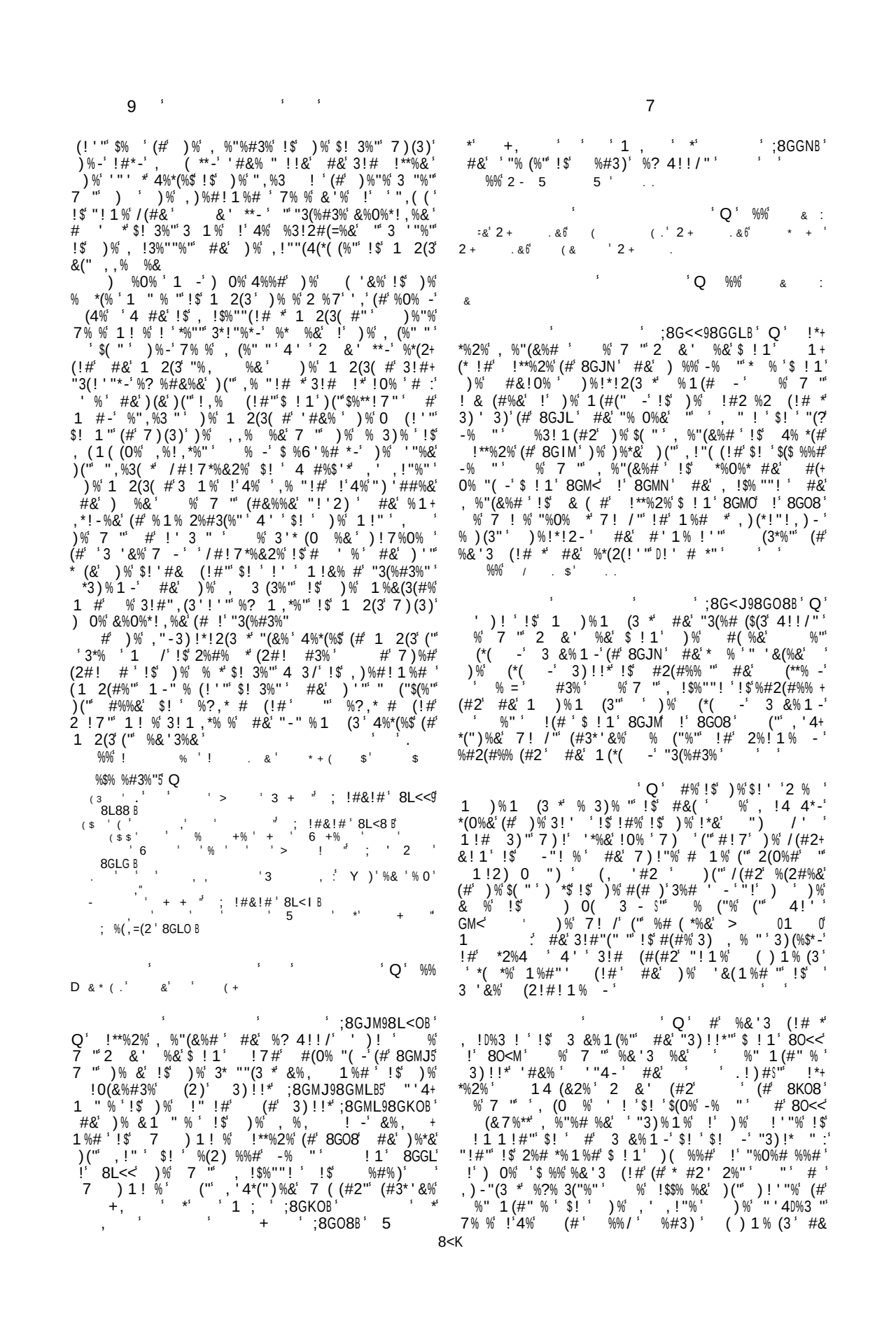

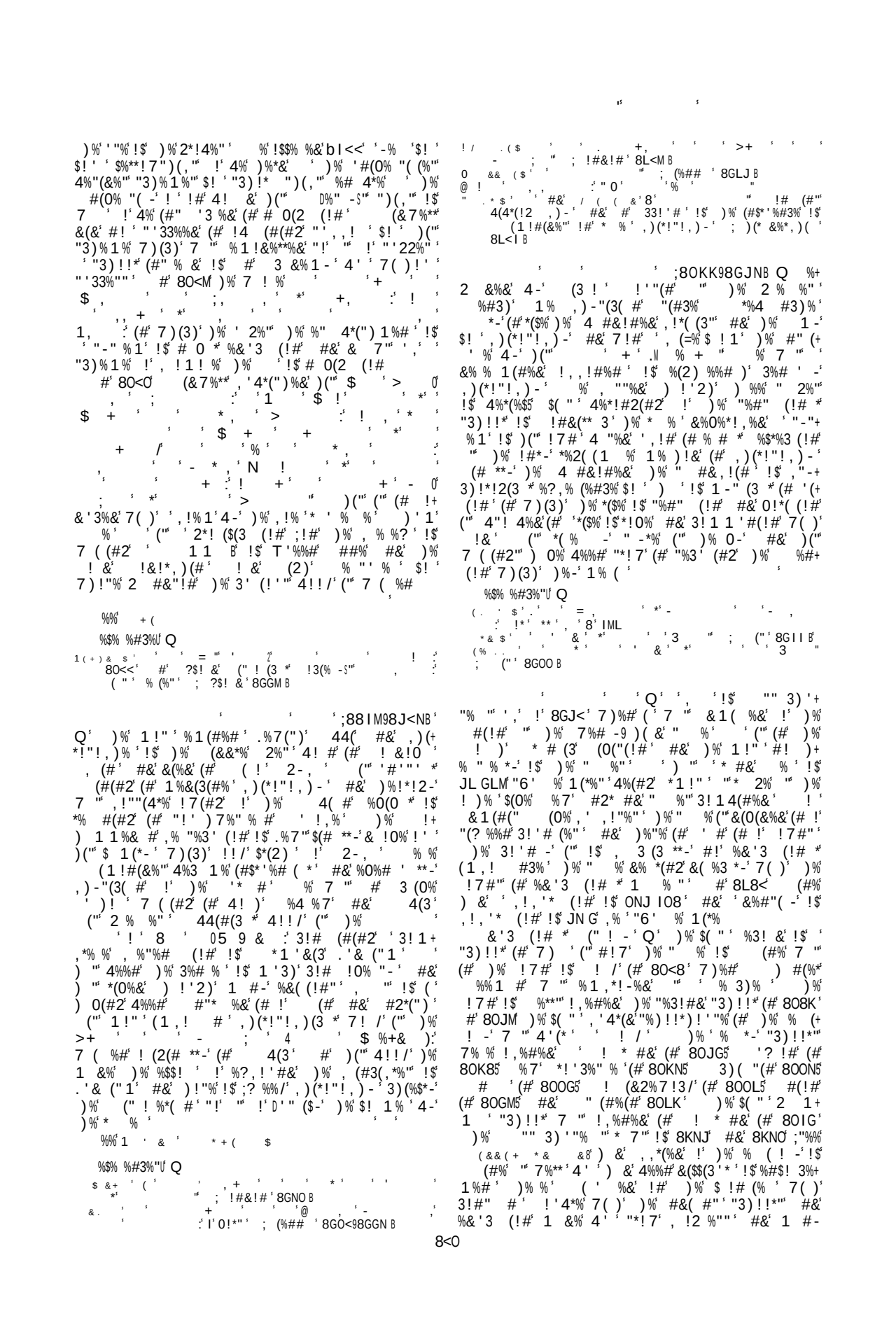

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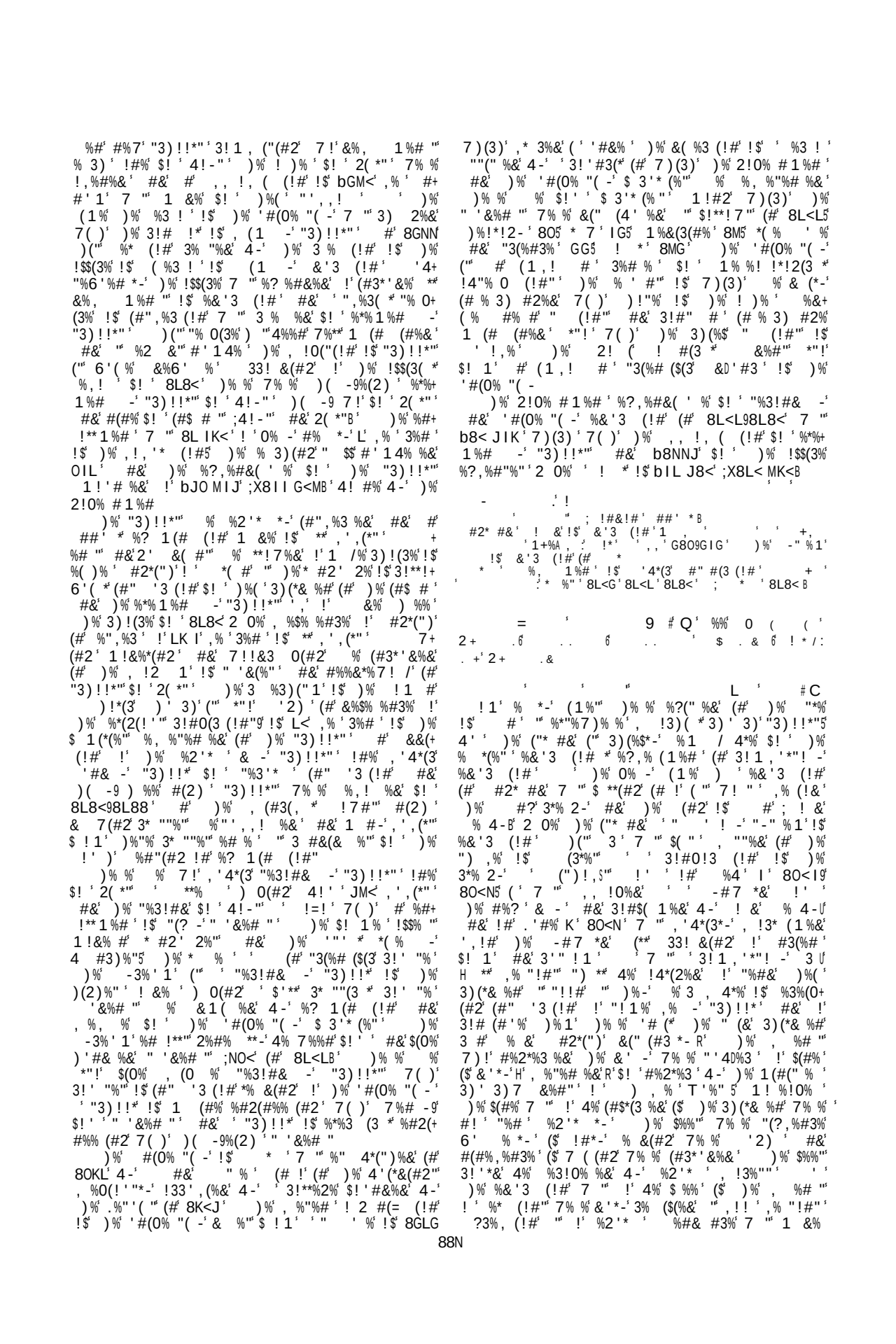

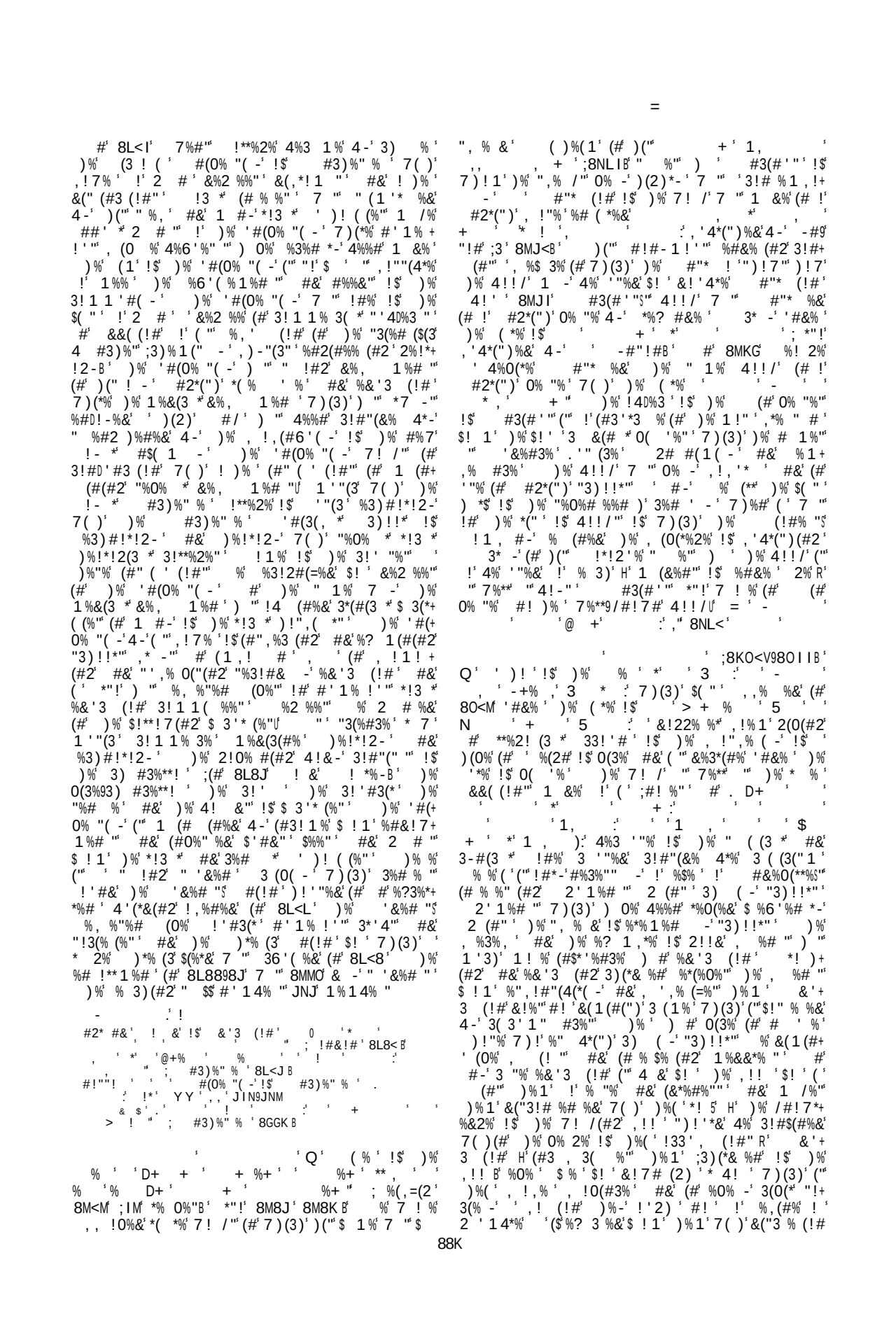

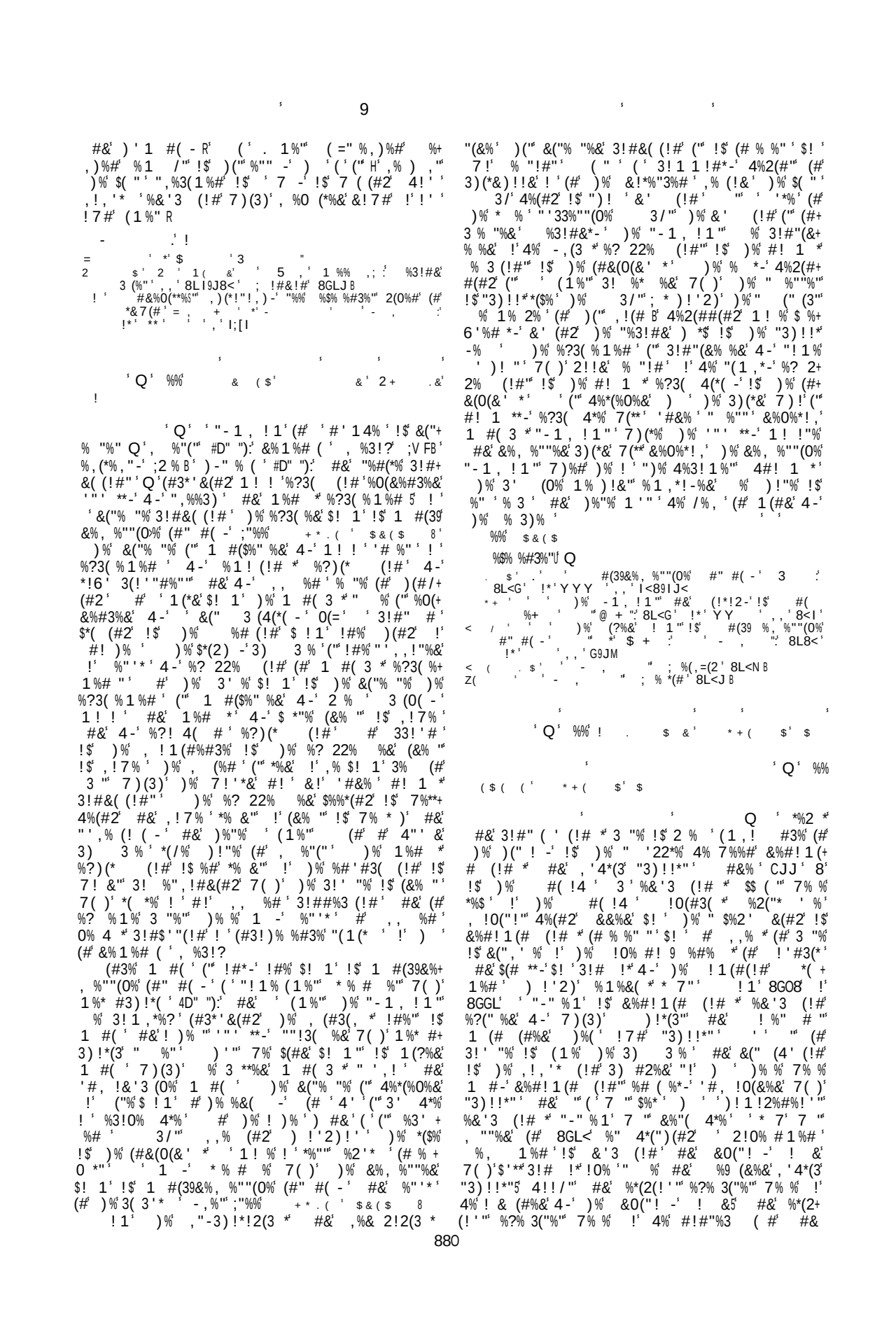

optional. This law was at once attacked by the Catholics as a violation of their rights and privileges under § 22, 1, of the Manitoba Act. A test case, the Barrett case, was brought to court and carried through to the Judicial Committee of the Privy Council in England in 1893, but the decision was against the Catholics on the ground that no denominational or other schools had existed before the Act. In the meantime a petition was drawn up by the Catholics appealing to the Governor-General to protect their rights and privileges acquired since 1870, and complaining of the injustice of taxing Catholics to maintain what to all intents and purposes were Protestant schools. This appeal became the subject of litigation, and in 1895 the Judicial Committee of the Privy Council in England decided that an appeal lay to the Governor-General in whose jurisdiction it was to make some remedial order. A Remedial Order was issued in 1895 by which Catholics were permitted to maintain their own schools, were to share in any public grant to education, and were to be exempted from supporting any other schools. The province refused to obey the order, and the Dominion government took up the matter, but without taking any decisive action. At the general elections in 1896 the Liberals were returned in a large majority, the separate schools question forming an important part in the struggle. A compromise was put forward by Sir Wilfrid, then Mr., Laurier, Dominion Premier, and Mr. Greenway, Premier of Manitoba, by which a clergyman or authorized religious teacher was to be given access to Catholic schools to give religious instruction, and where the numbers permitted a Catholic teacher might be employed. The Catholics refused to accept any arrangement which did not give them their own school. The Pope was invited to send an Apostolic Delegate to consider the situation, but the Manitoba Government legalized the Laurier-Greenway compromise before he arrived. This law (the Public Schools Act, 1897) is the basis of the present system.

See CANADA, EDUCATION IN.

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England, Board of Education. *Special Reports on Educational Subjects,* Vol. I, pp. 658–688. The History of the Manitoba School System and the Issues of the recent Controversy. (London, 1897.)

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MANITOBA, UNIVERSITY OF, WINNIPEG, MAN. — A provincial university established by the Manitoba legislature in 1877. Six colleges are affiliated with the university. Courses are offered in arts, medicine, engineering, law, pharmacy, and commerce, all but the last leading to their respective degrees. The enrollment in 1910–1911 was 744. The faculty consists of twenty-three members.

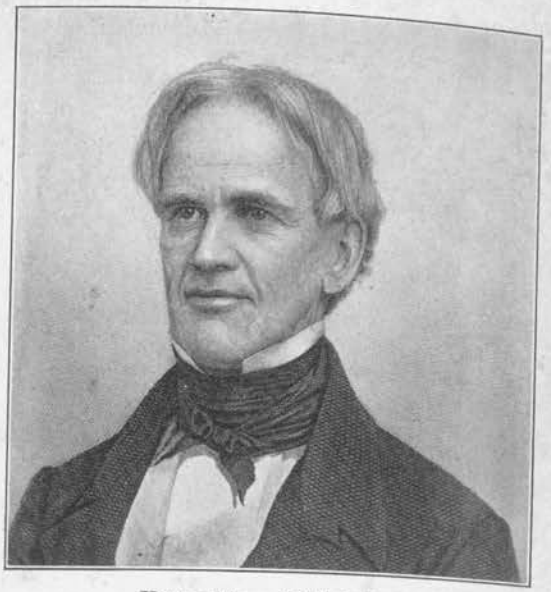
MANN, HORACE (1796–1859). — American educator and statesman. He was born at Franklin, Mass., the 4th of May, 1796, and received the rudiments of his education in the district schools, being prepared for college by an itinerant schoolmaster. He entered Brown University in 1816, and was graduated three years later. He was two years tutor at Brown, when he took up the study of law at Litchfield, Conn. In 1823 he was admitted to the bar of Norfolk County, Mass., and during the next fourteen years he was engaged in the practice of law and in legislative labors. He was for six years a member of the house of representatives of Massachusetts and three years a member of the state senate. In the latter body he was directly responsible for the enactment of four important acts: (1) a law against the use of alcoholic beverages; (2) against the traffic in lottery tickets; (3) the establishment of state hospitals for the insane, and (4) an act creating the State Board of Education.

The new board was given power to select a secretary who should have the general oversight of the schools of the commonwealth. It was through the persuasions of his friends Edwin Dwight and Governor Edward Everett (*q.v.*) that Mr. Mann was induced to give up the profession of law and undertake the reorganization of the Massachusetts school system. His task was by no means an easy one. The growth of the district school system and the extension of private schools had greatly weakened the efficiency and influence of the public schools. He entered upon his new duties in June, 1837. He wrote to a friend: "My law books are for sale. My office is to let. The bar is no longer my forum. I have abandoned jurisprudence, and betaken myself to the larger sphere of mind and morals."

As secretary of the State Board of Education, Mr. Mann's first effort was to educate public opinion with reference to the needs and purposes of public education. The lyceum movement (*q.v.*) had made public lectures popular, and he laid under tribute brilliant clergymen, distinguished lawyers, prominent men of letters, and well-known college professors as speakers at the hundreds of public meetings held throughout the commonwealth. Through these public meetings he literally stirred the thoughts and feelings of the entire state, and made possible subsequent legislation which led to the reëstablishment of a common school system in Massachusetts.

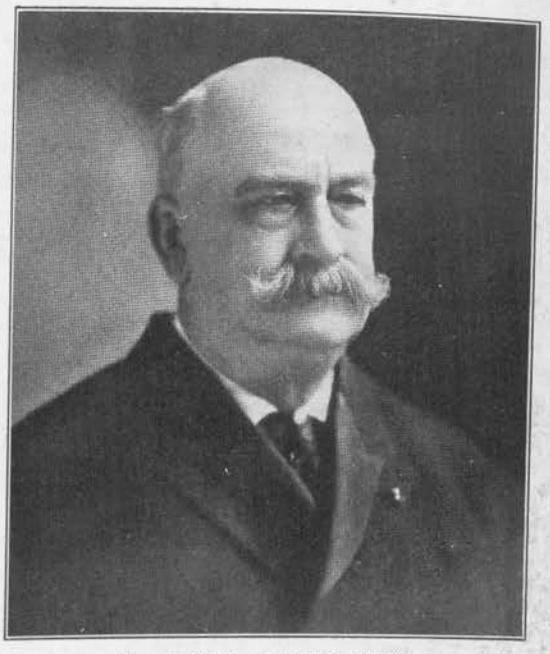
His next important reform was the improvement of the teaching force of the state, and this he accomplished by the organization of

William Maclure (1763–1830).
See page 104.



Horace Mann (1796–1859).
See page 118.

Lowell Mason (1792–1872).
See page 146.



Francis W. Parker (1831–1902).
See page 606.

A Group of American Educators.

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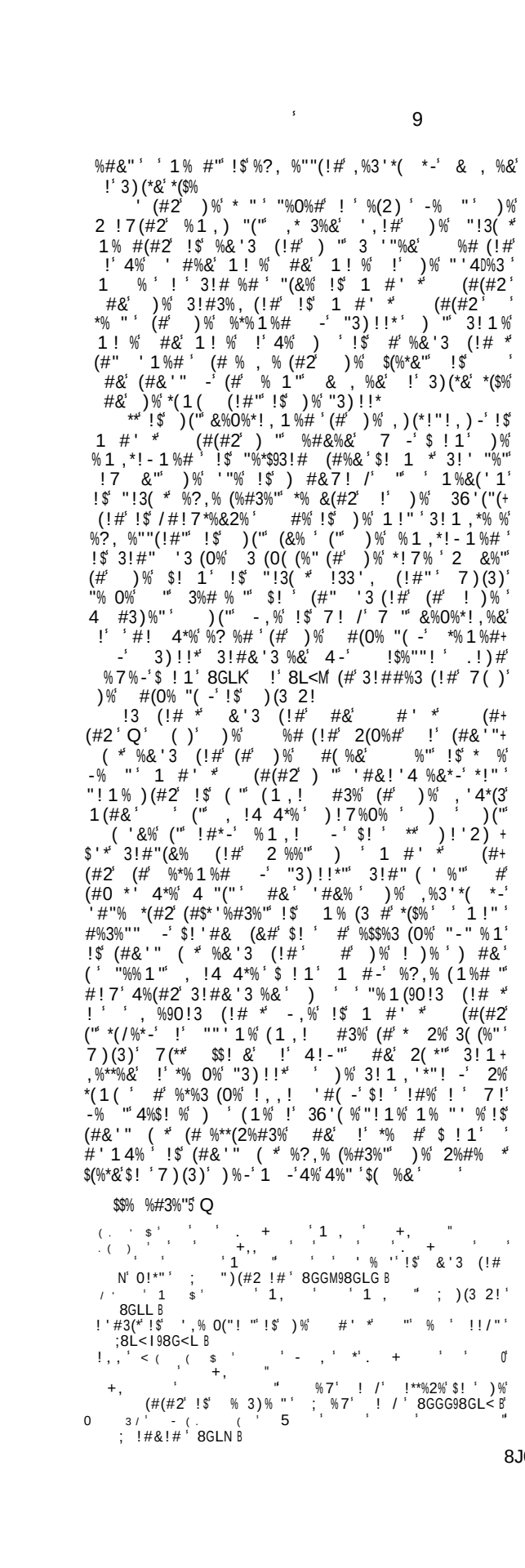

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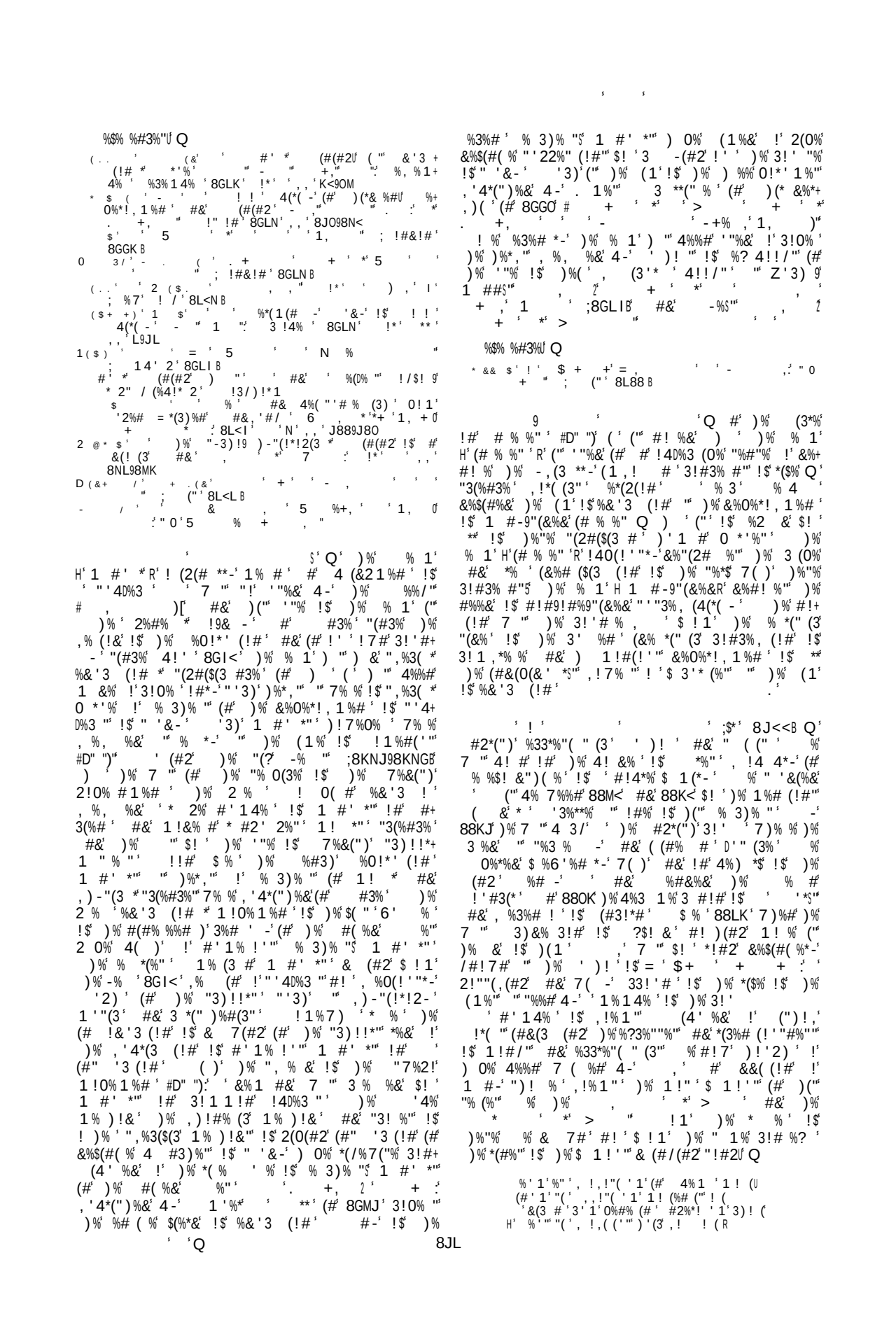

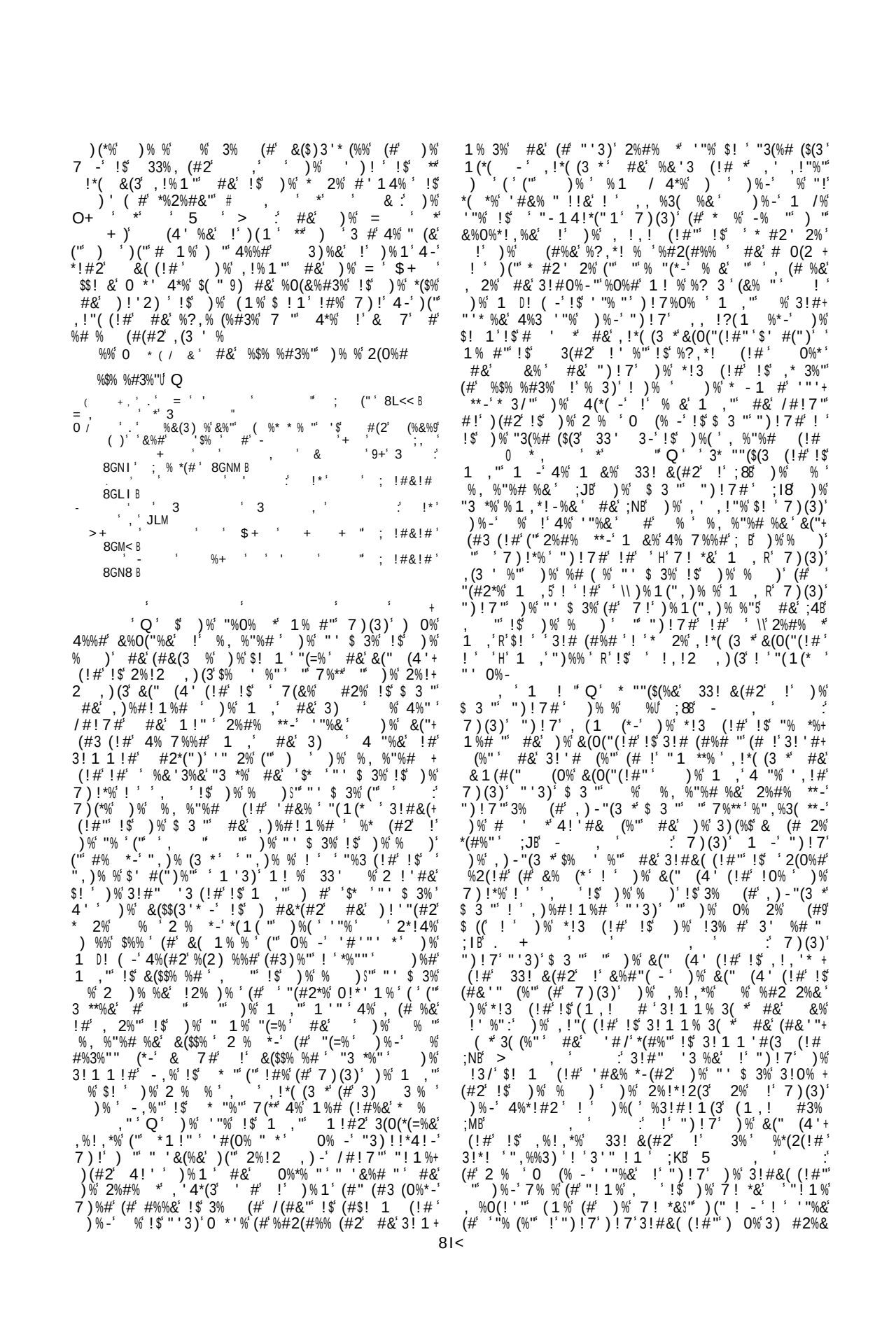

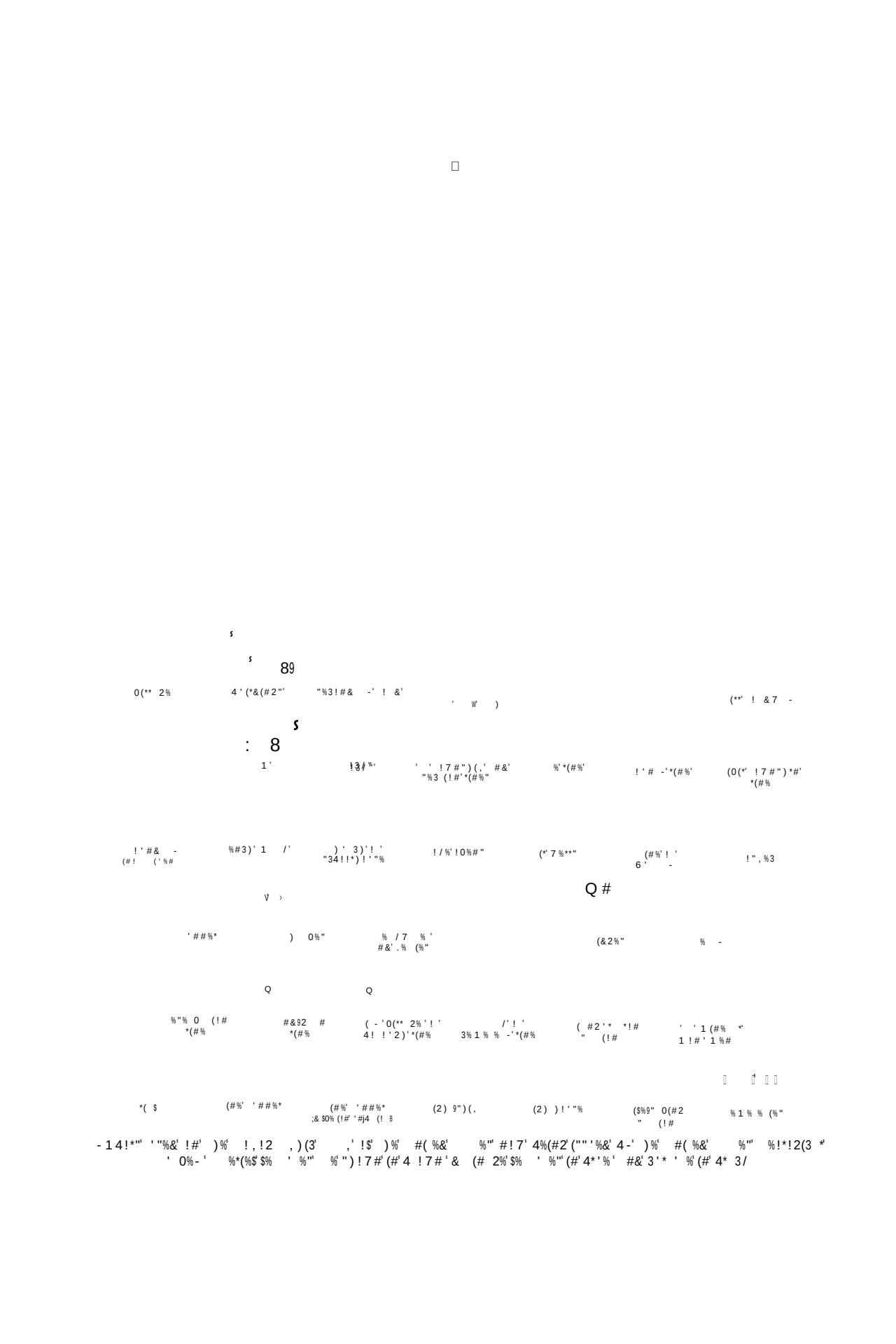

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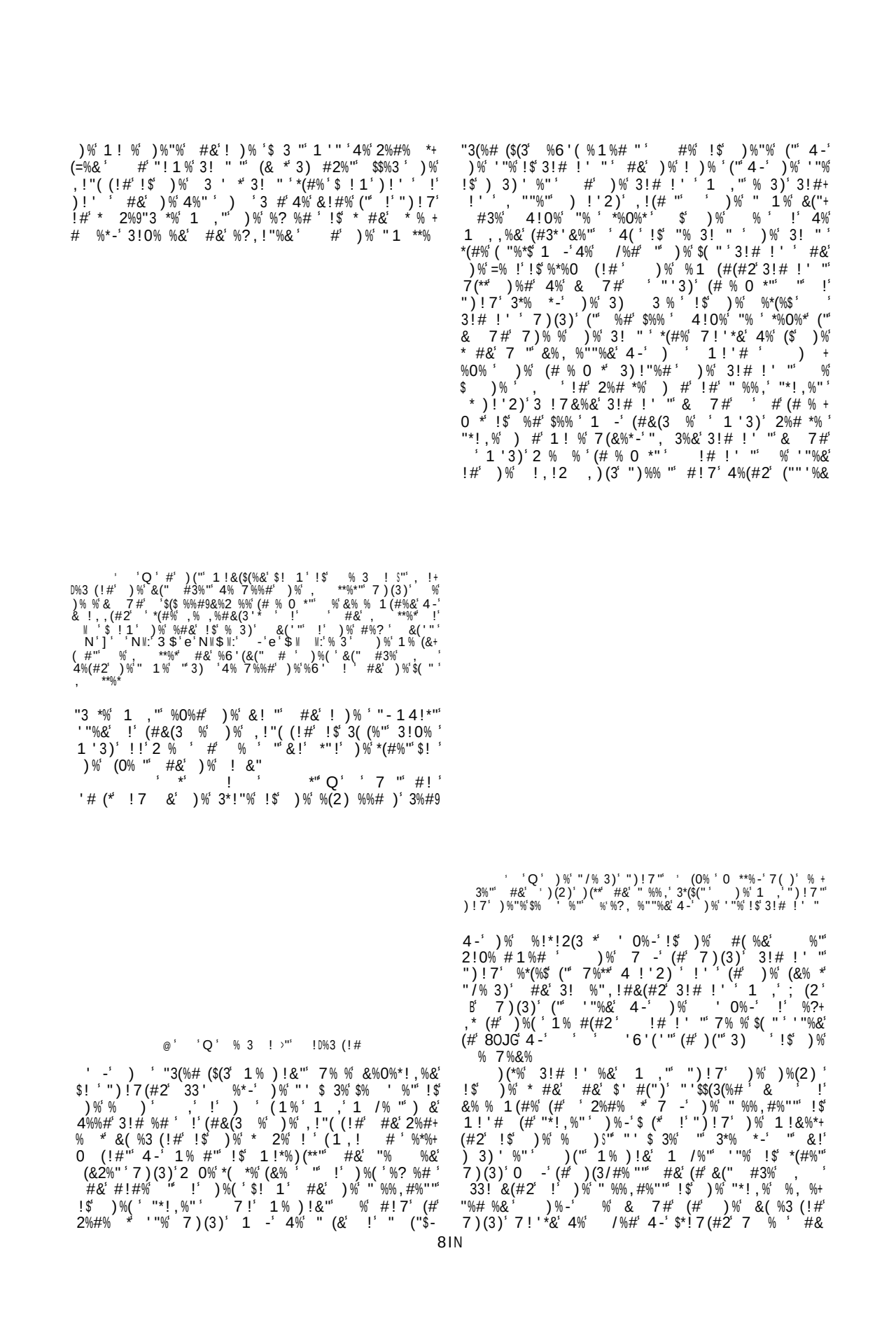

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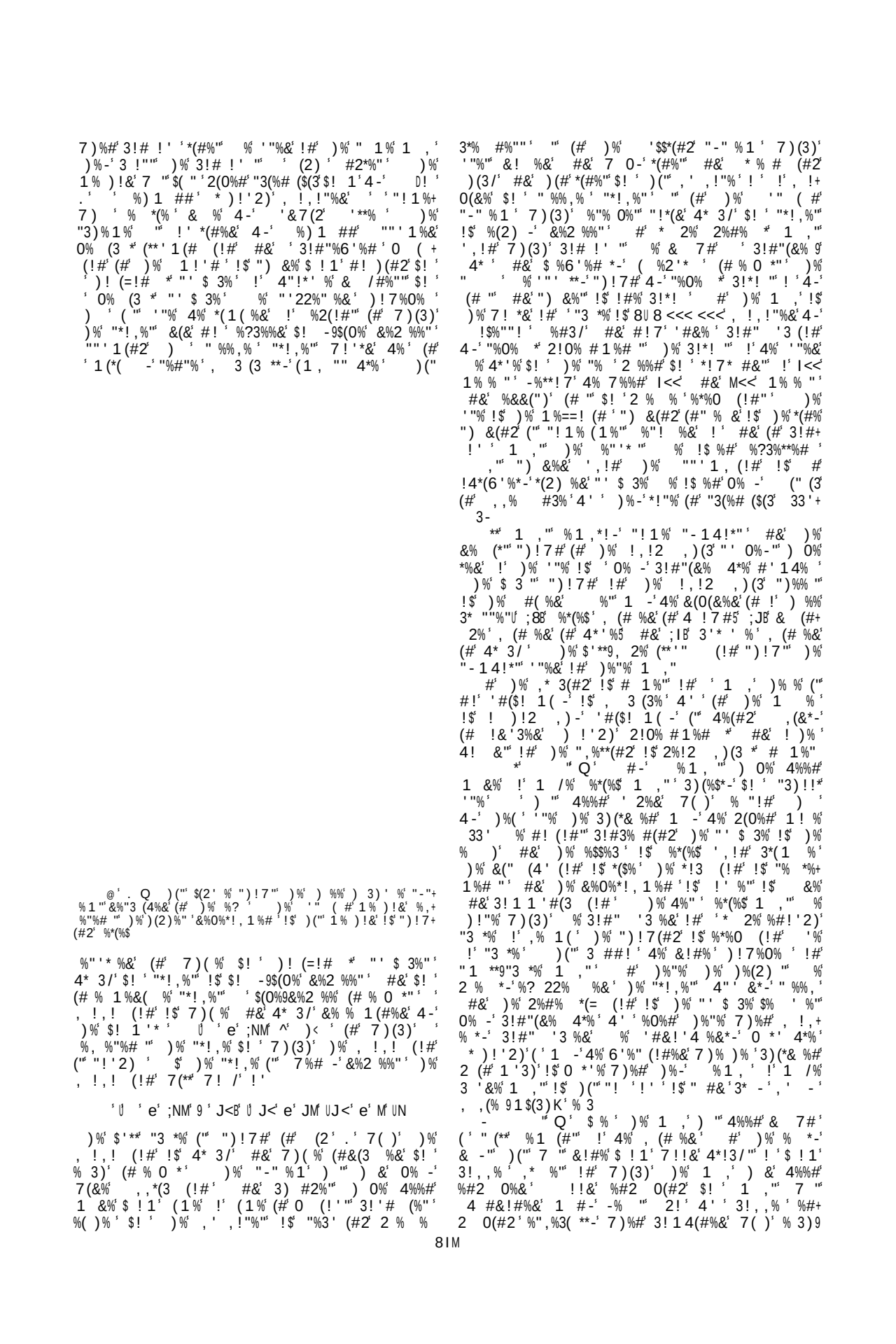

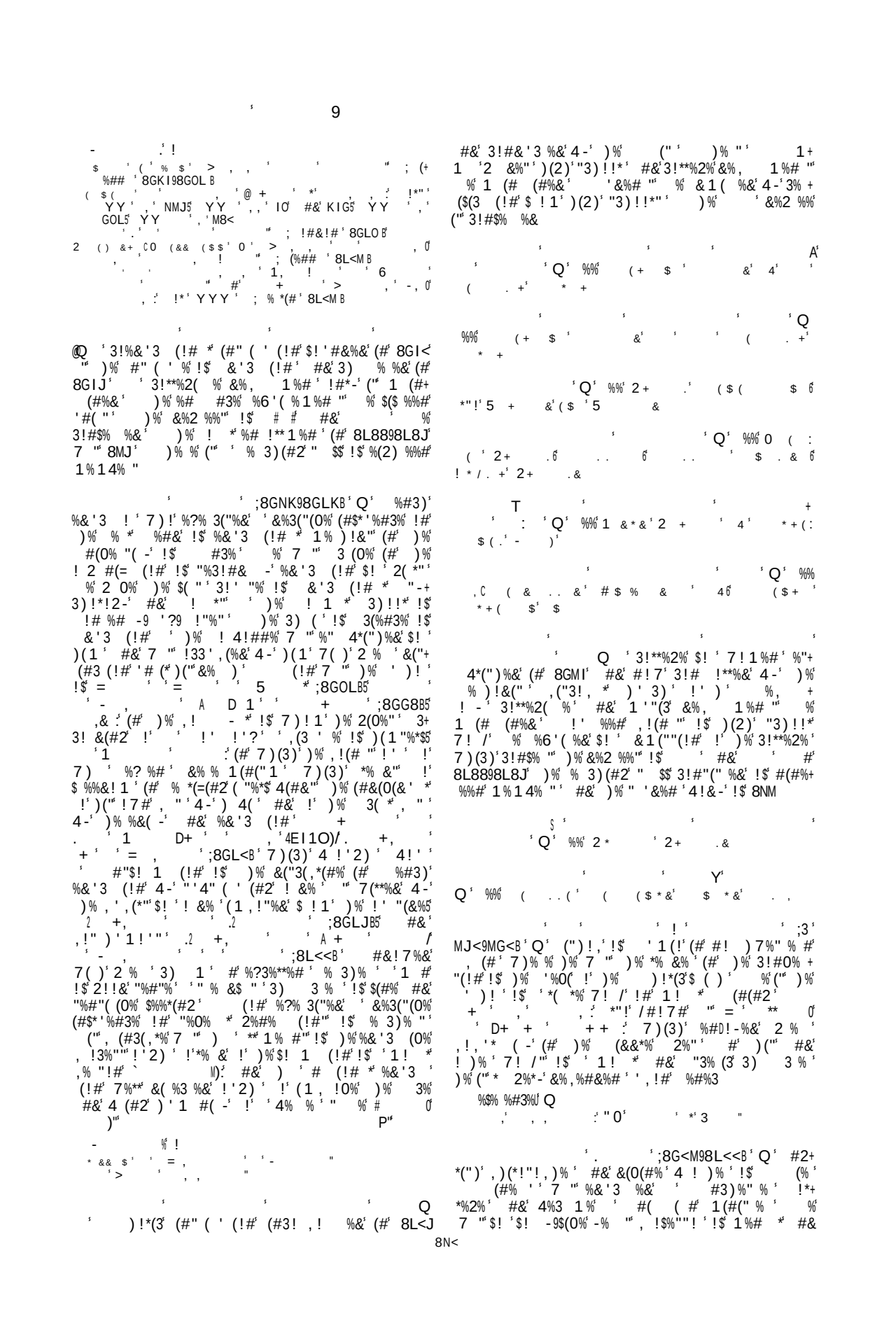

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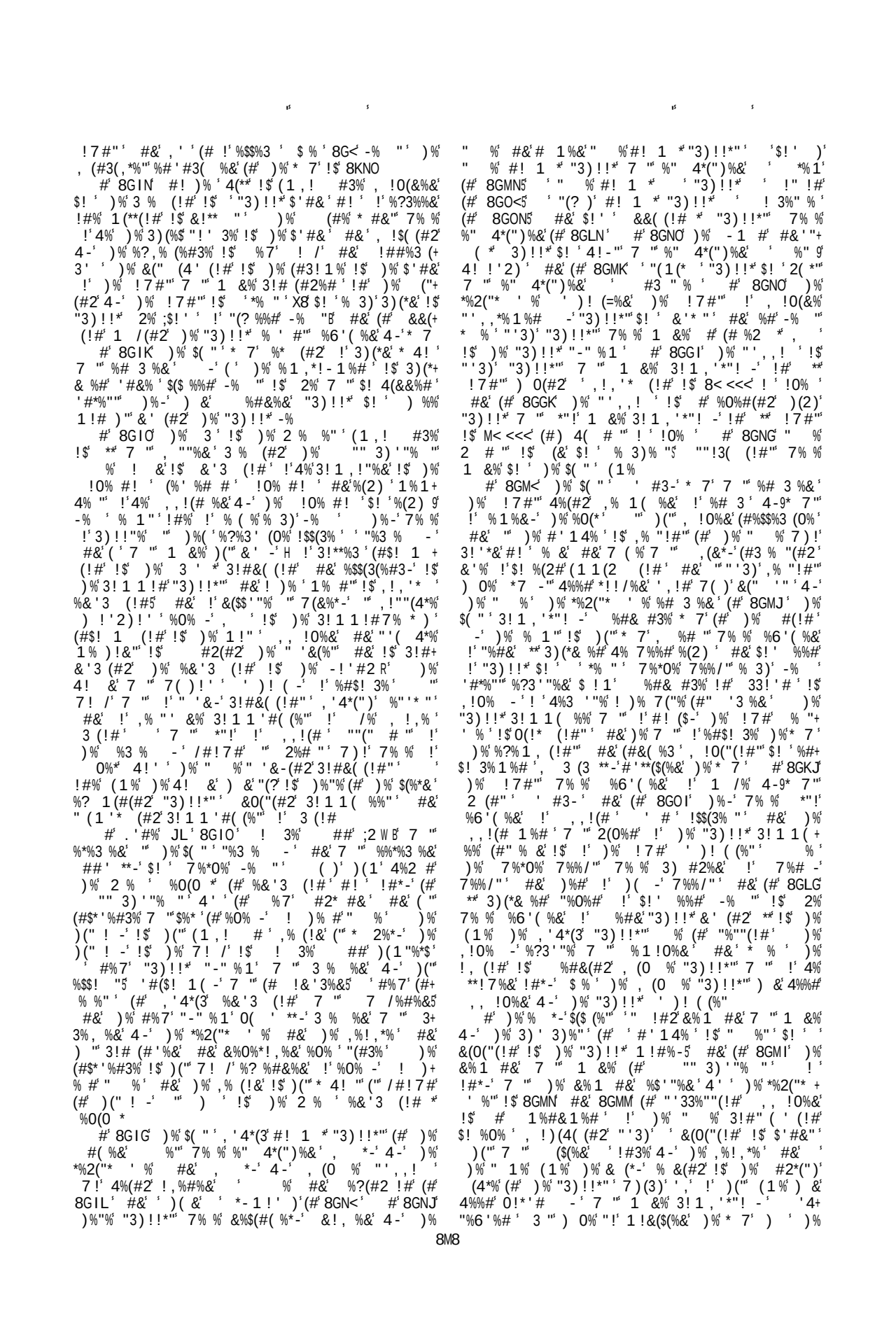
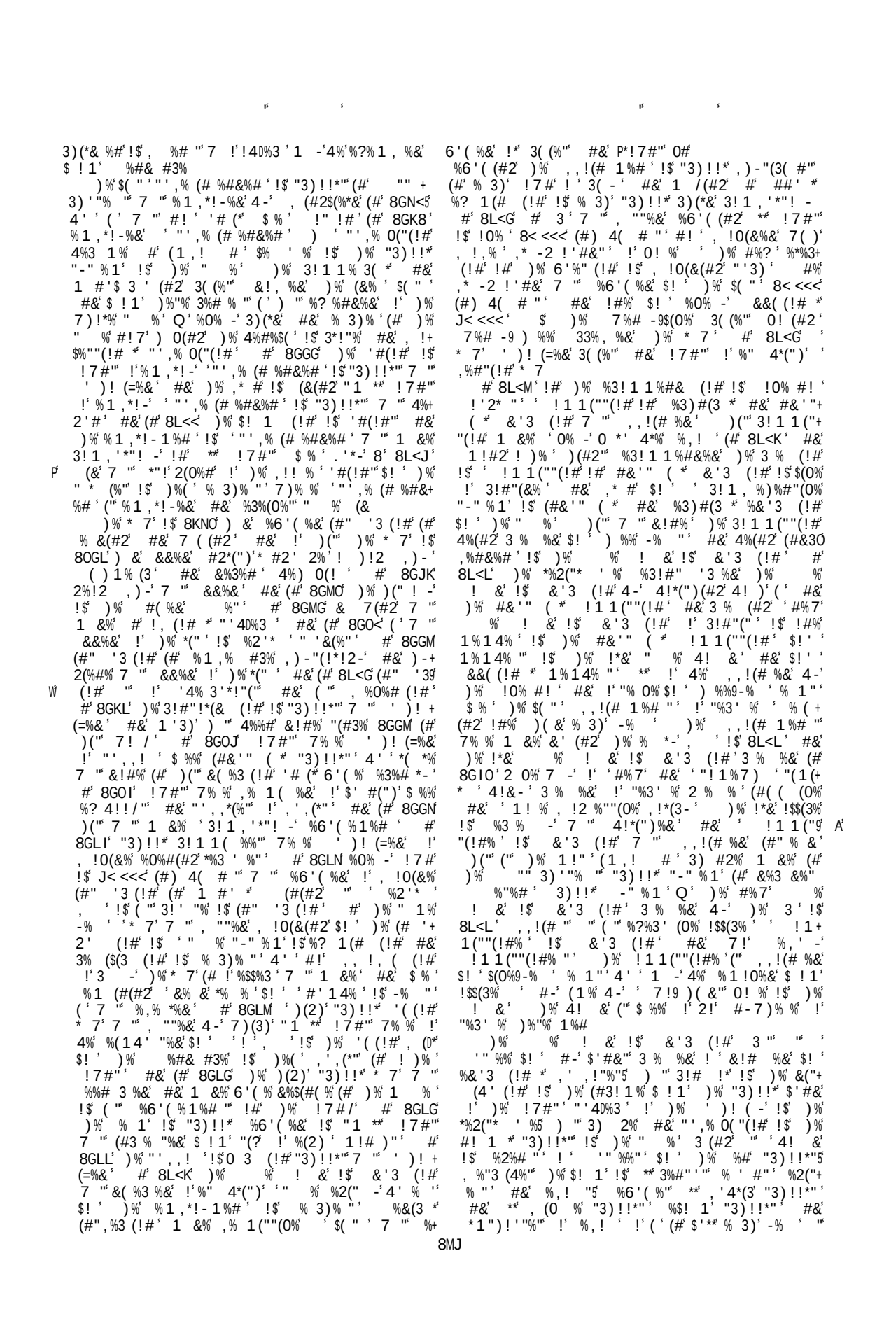
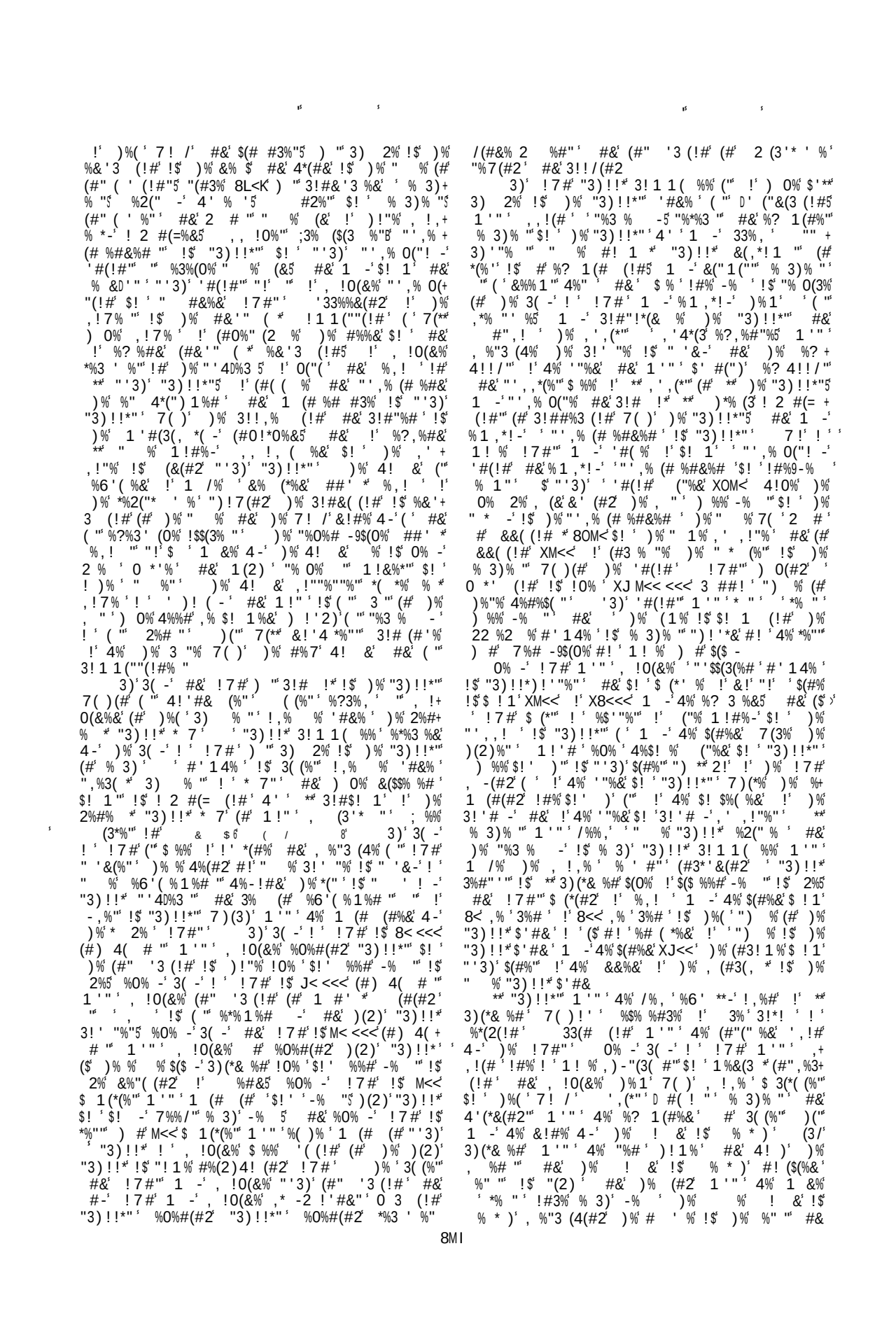
) *! %' ** 8OON X' K K<< *%")%" % !7# 8OGI !#9"%3 8I JOM !)' %?%" ## ,!*(" 8OGL !#9"%3 8N J<< *%" *(1! % 8G<O N <<< *%" 1 1("4' 2 8G<G ' *%" *(1! % 8G8N *%" %7' (#&"! 8GNI %"4- !)' %?%" ' -$'" (- K <<< !1%# ' * M <<< !)' %?%" %&% (3/ N<< *%" *(1! % 8< <<< !)' %?%" ## ,!*(" 8GNM (!# *%" *(1! % 8GMJ ' *%" 2% " !7# 8GMJ !#9"%3 !1%# ')% 0(** 8GMI ') !1%# **(3! ' (- 8GMO ' *%" !**%2% / 8GML % 8M <<< *%" *(1! % 8GKO ' !)' %?%" %" 1(#" % 8GKO %)' ! 8M G<< !)' %?%" *(1! % 8GOJ N <<< *%" *(1! % 8GOK !#9"%3 JM <<< *%" *(1! % 8GG8 N <<< *%" *(1! % 8GGG ' !1%# %&% (3/ 8GLI %$! 1 !1%#







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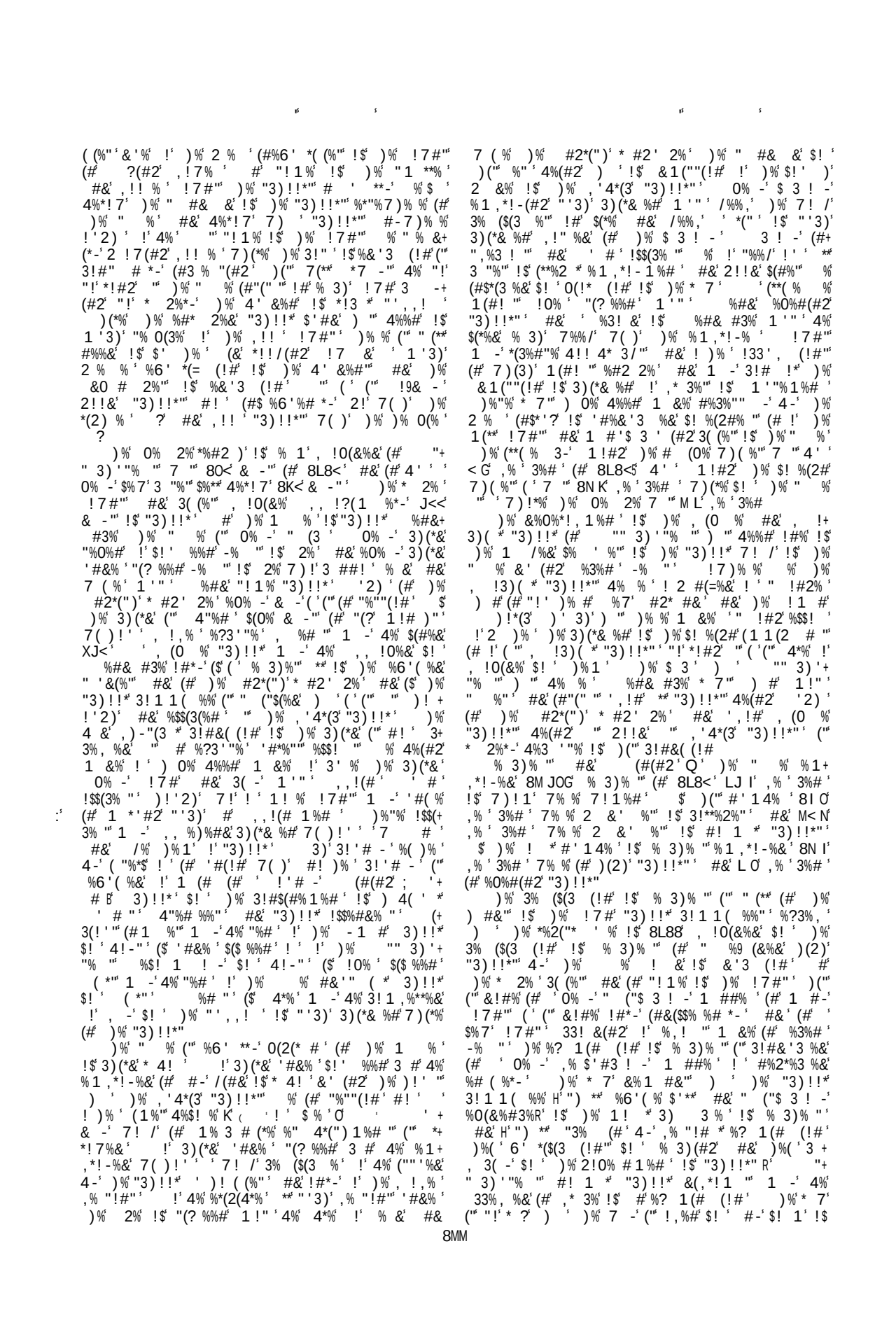

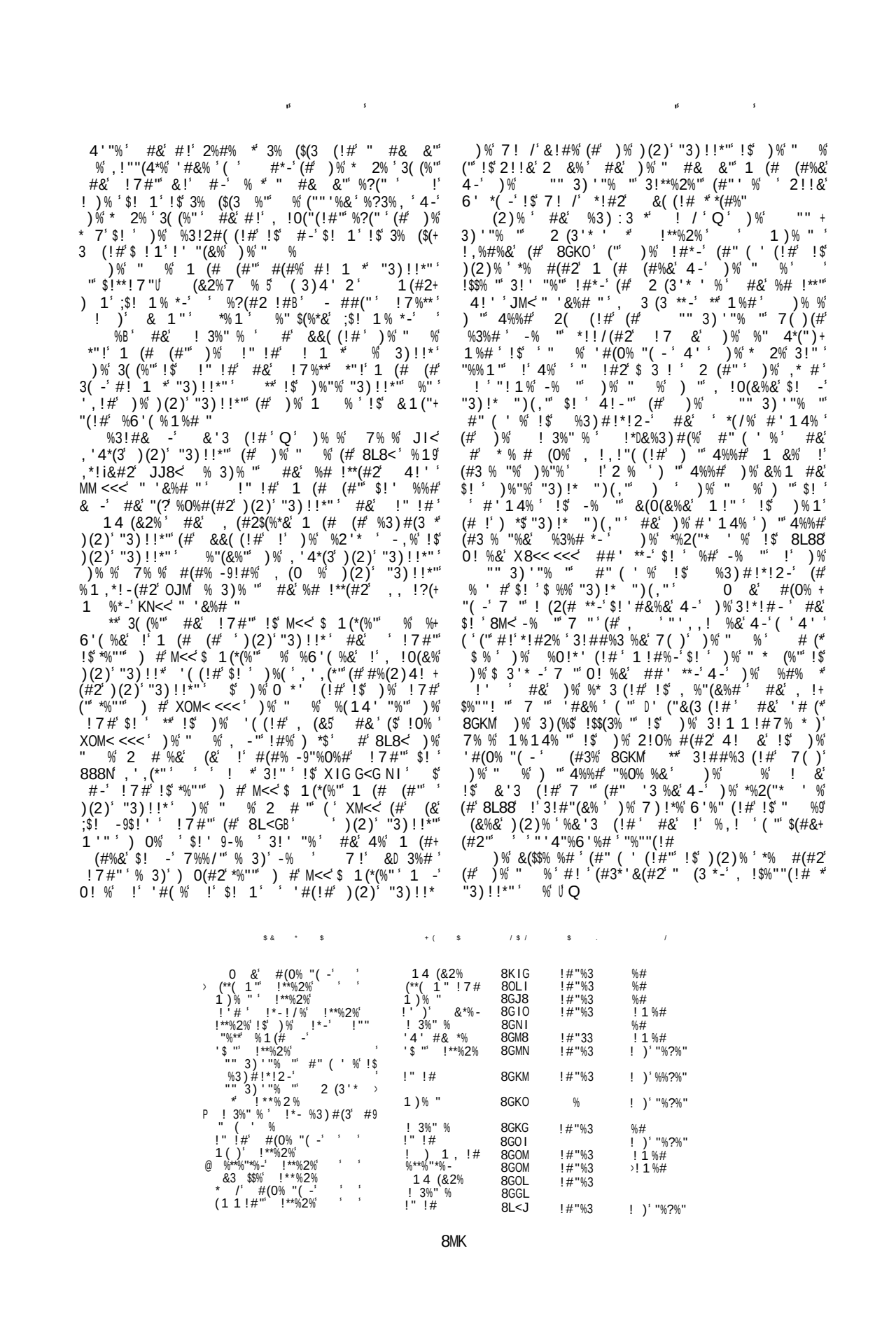

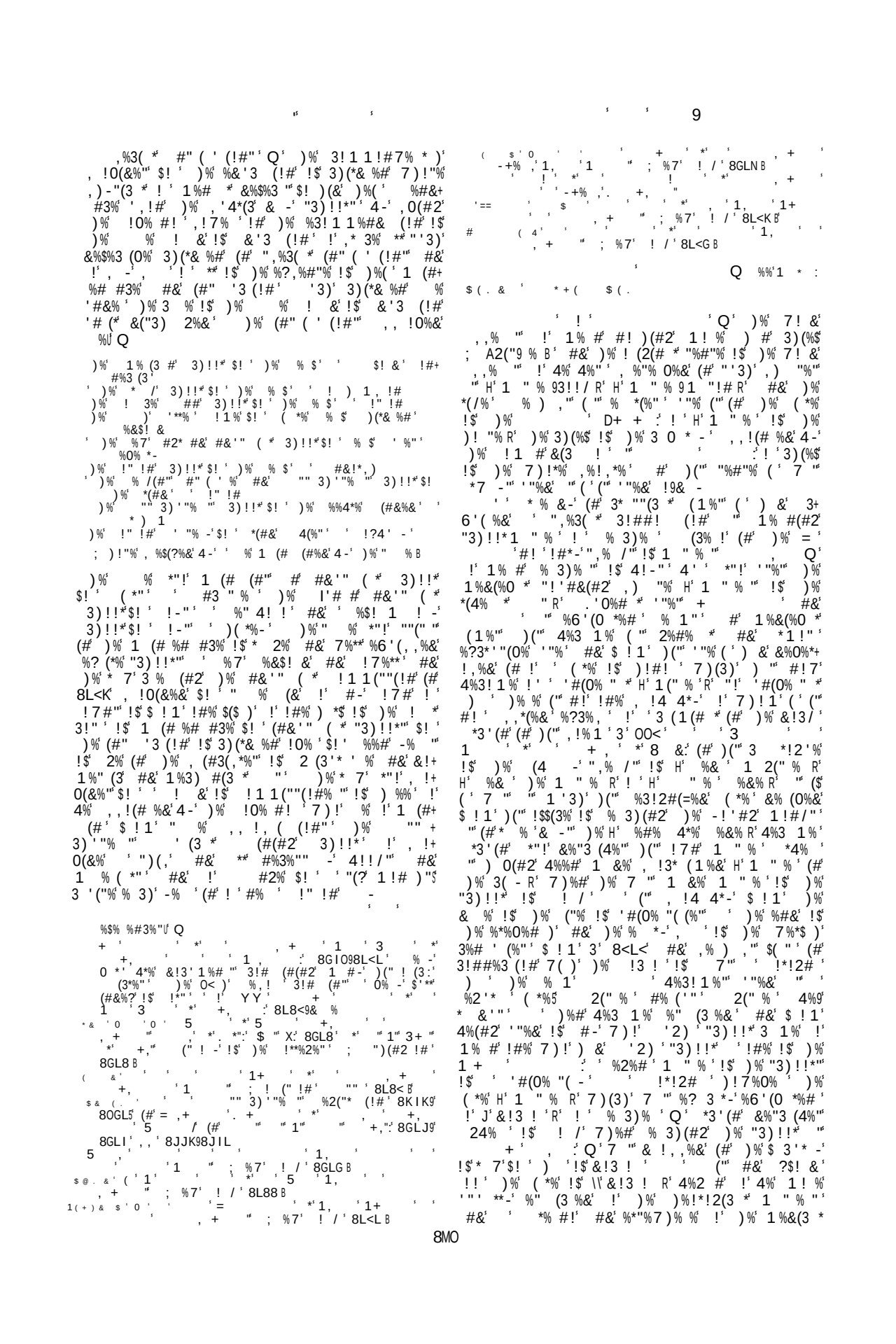

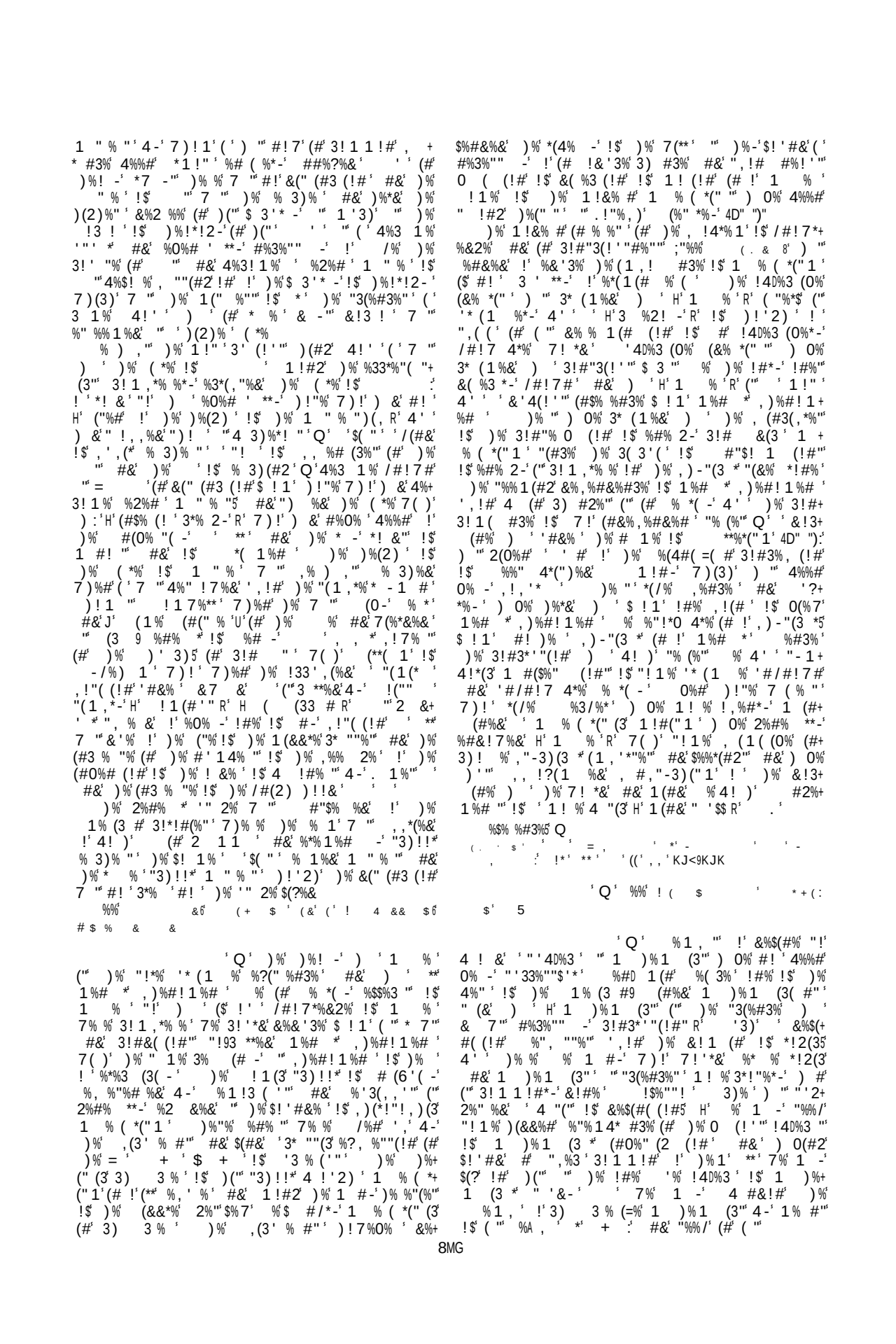

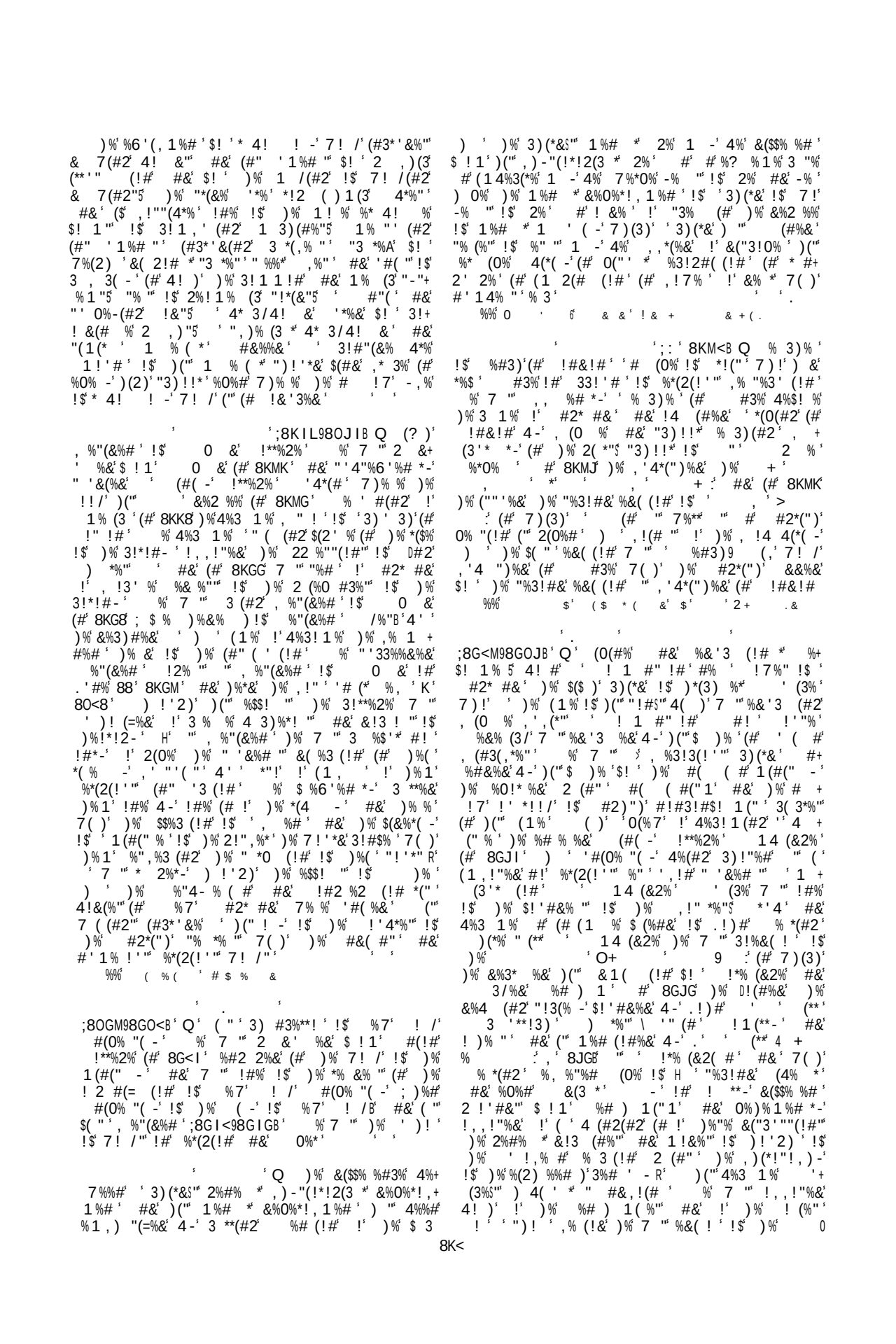

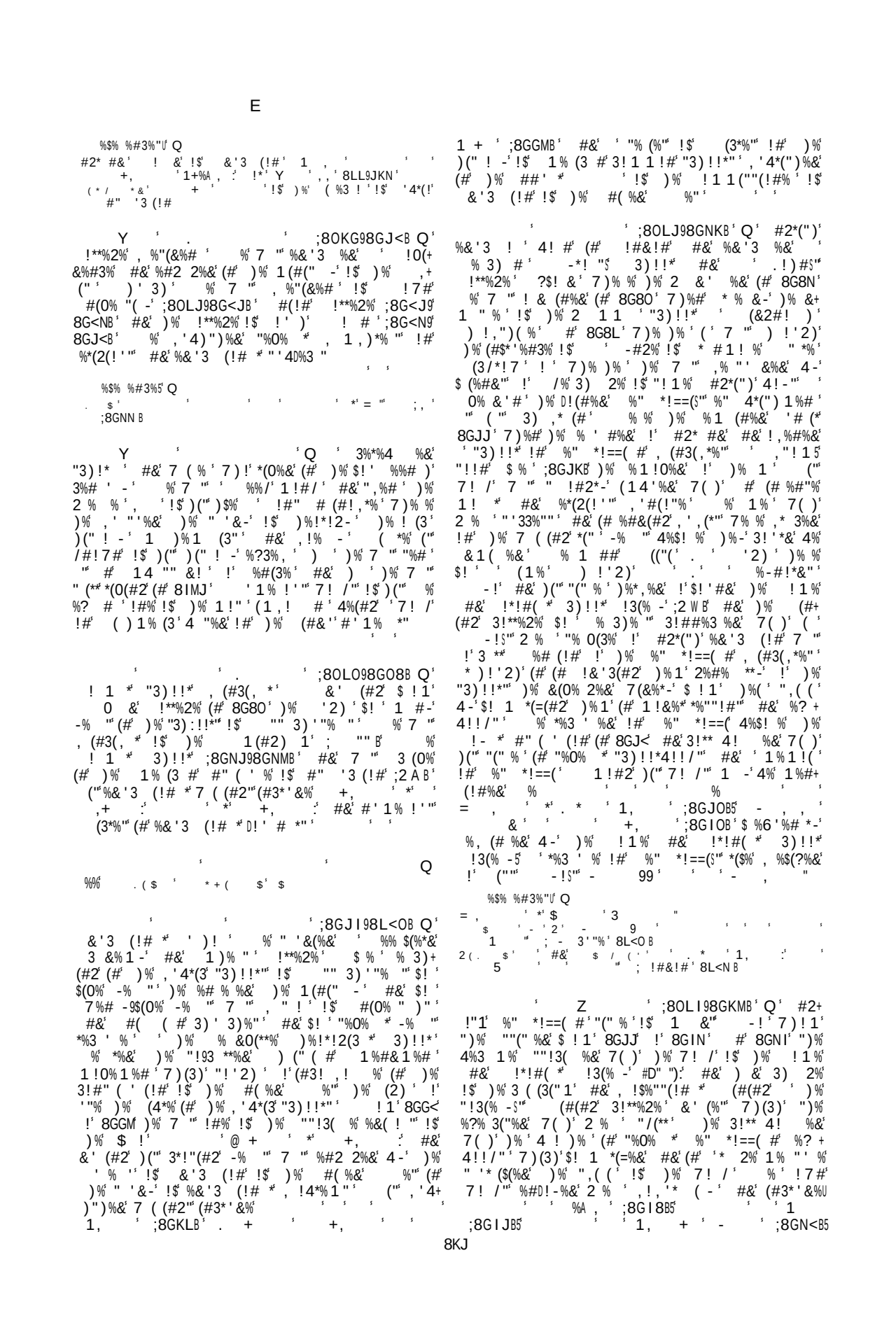

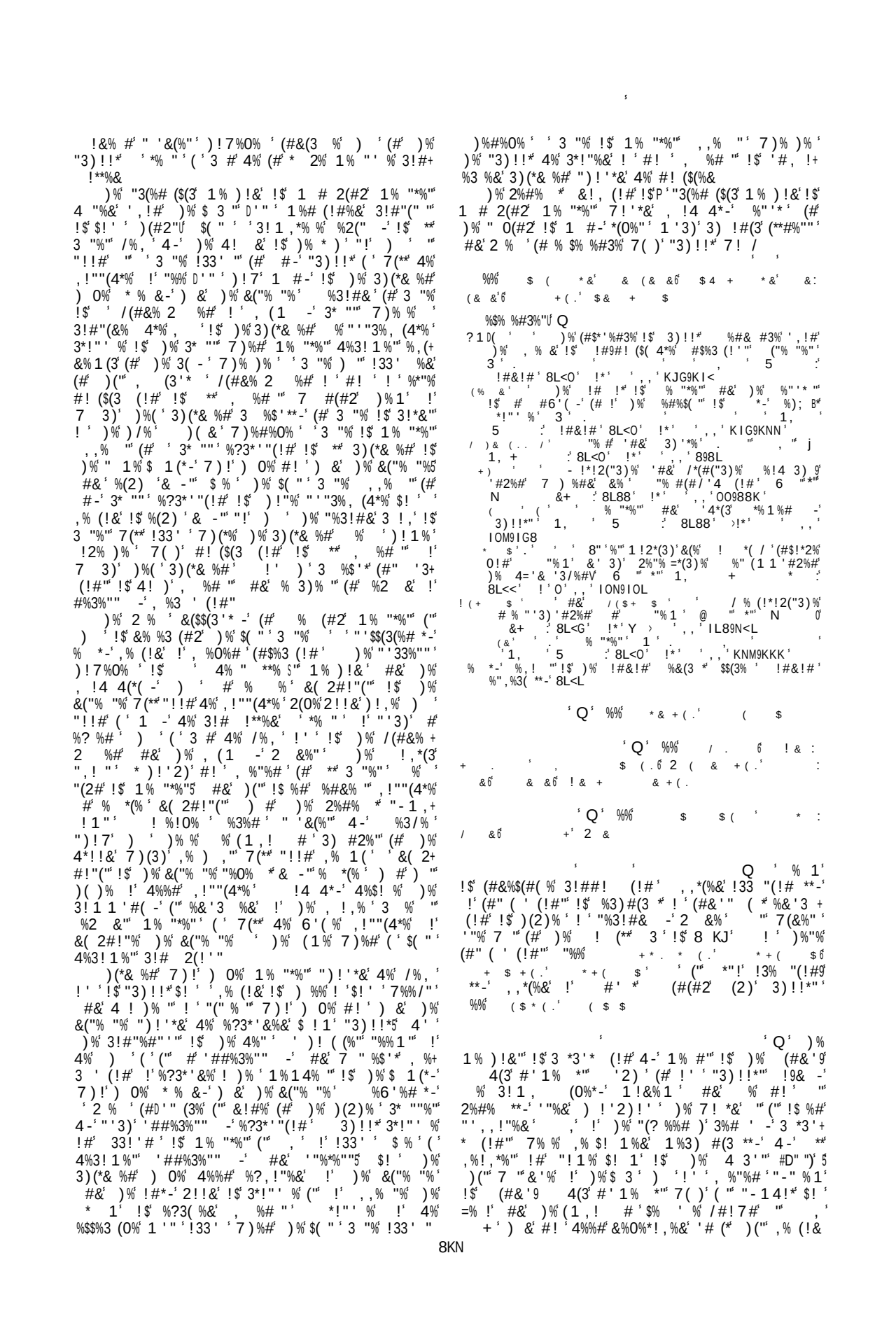

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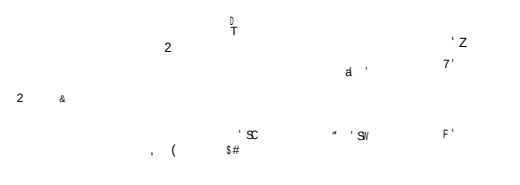

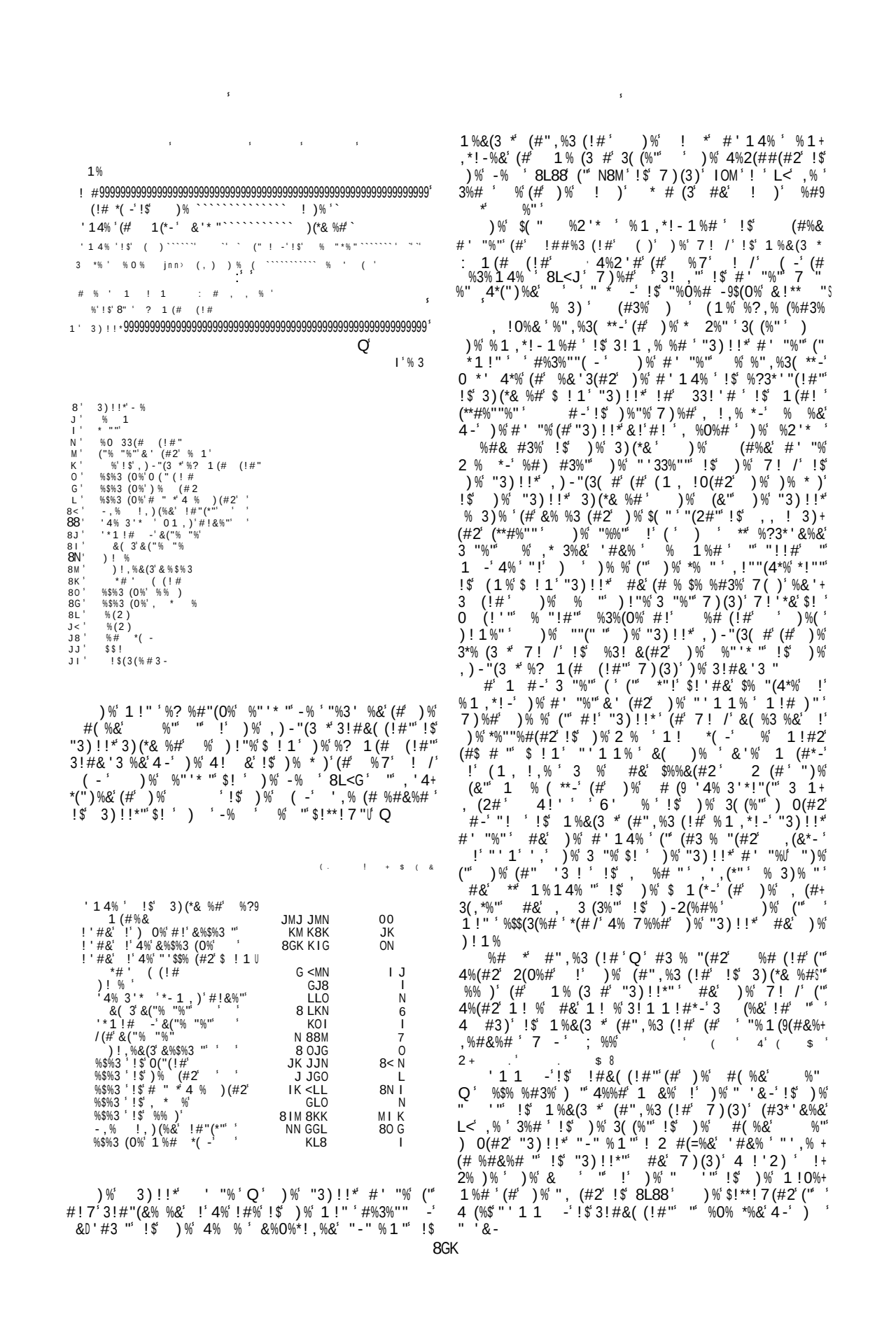

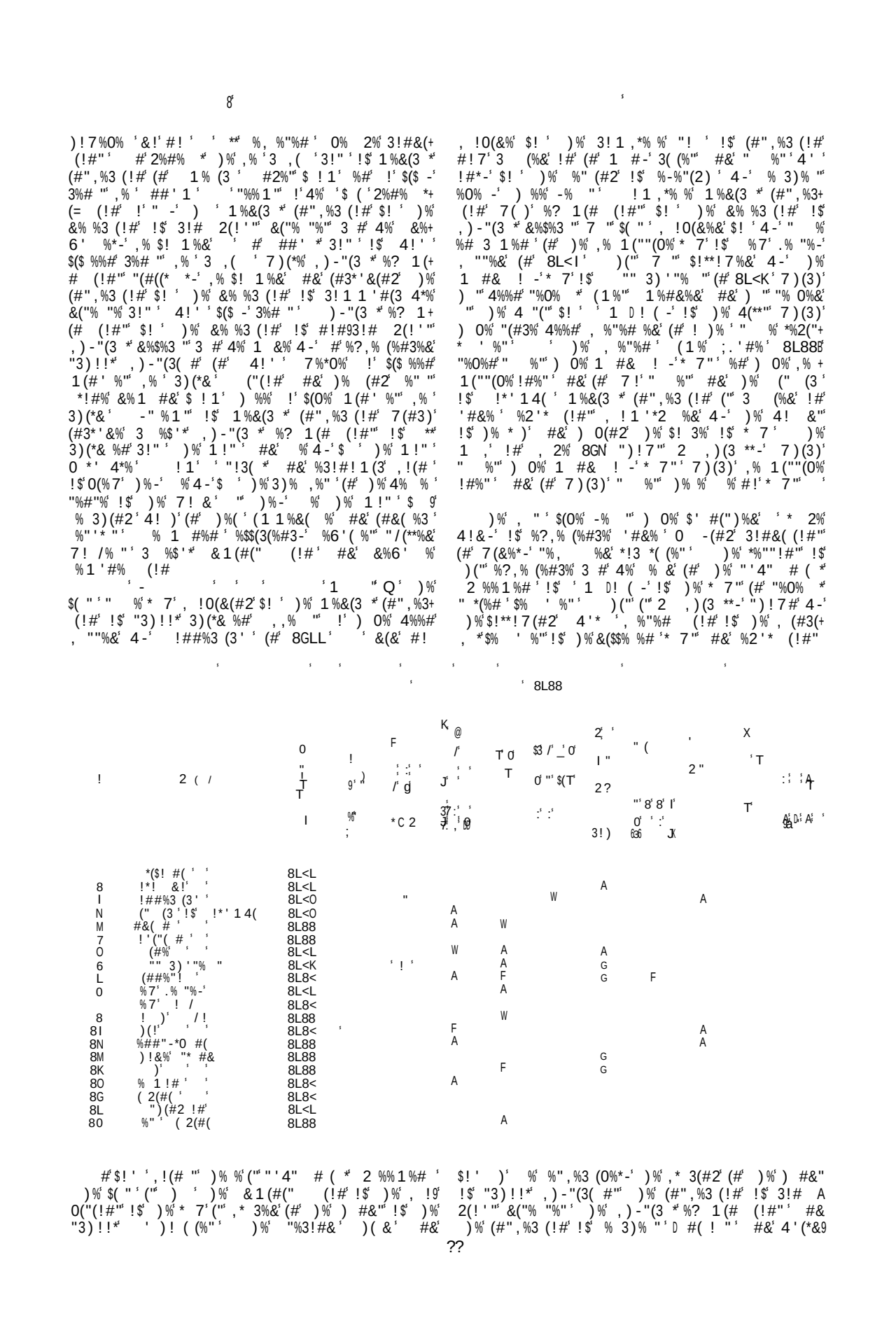

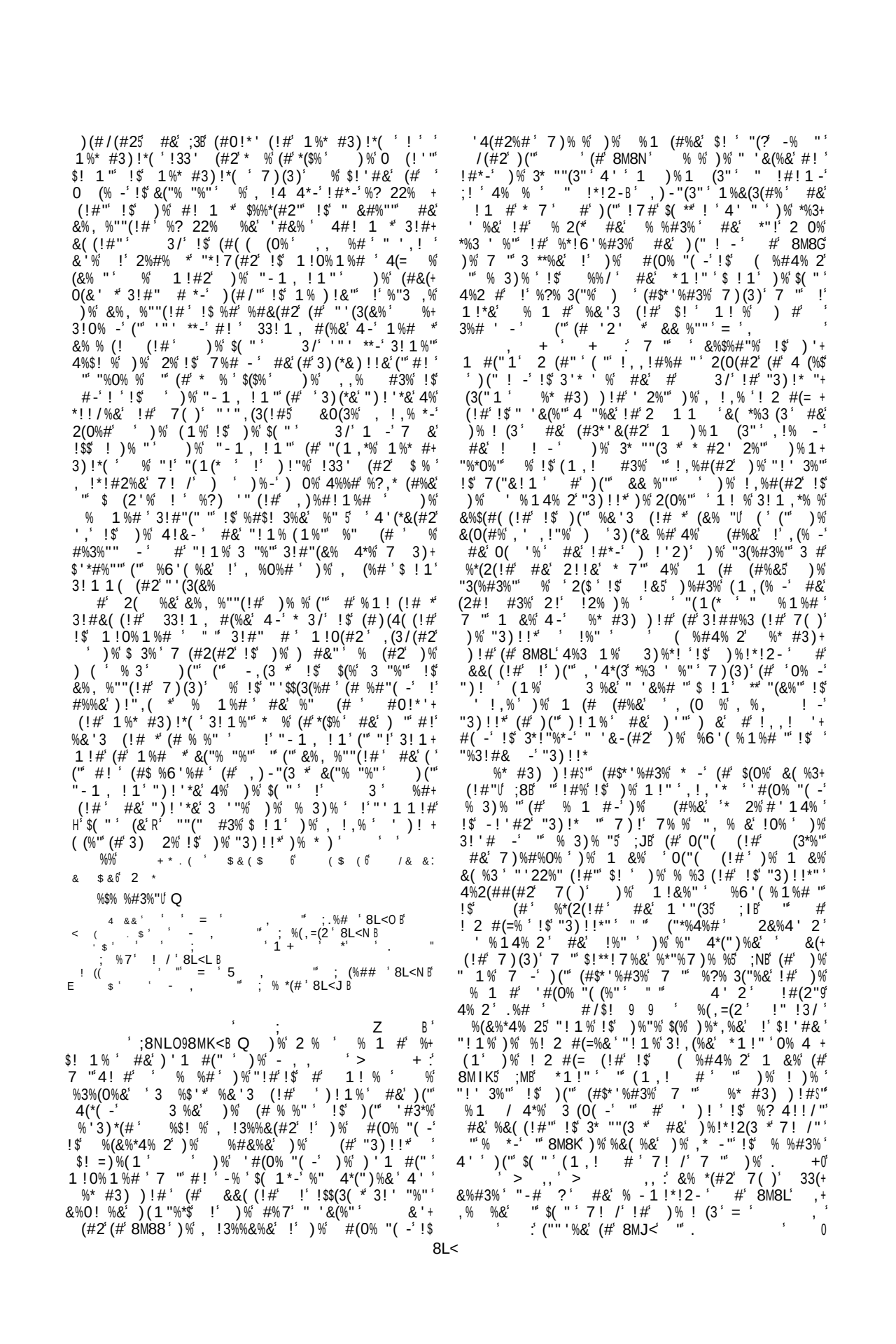

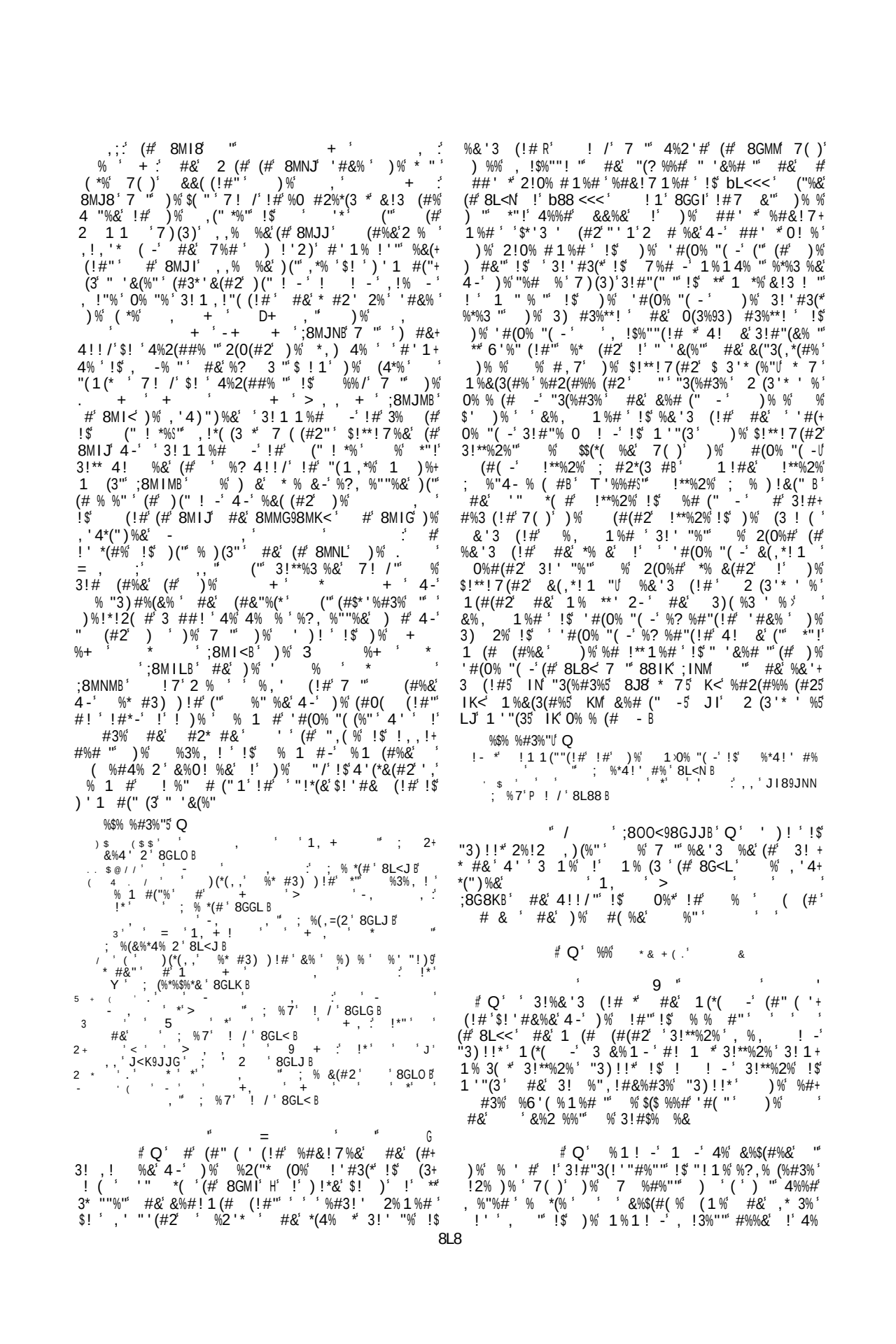

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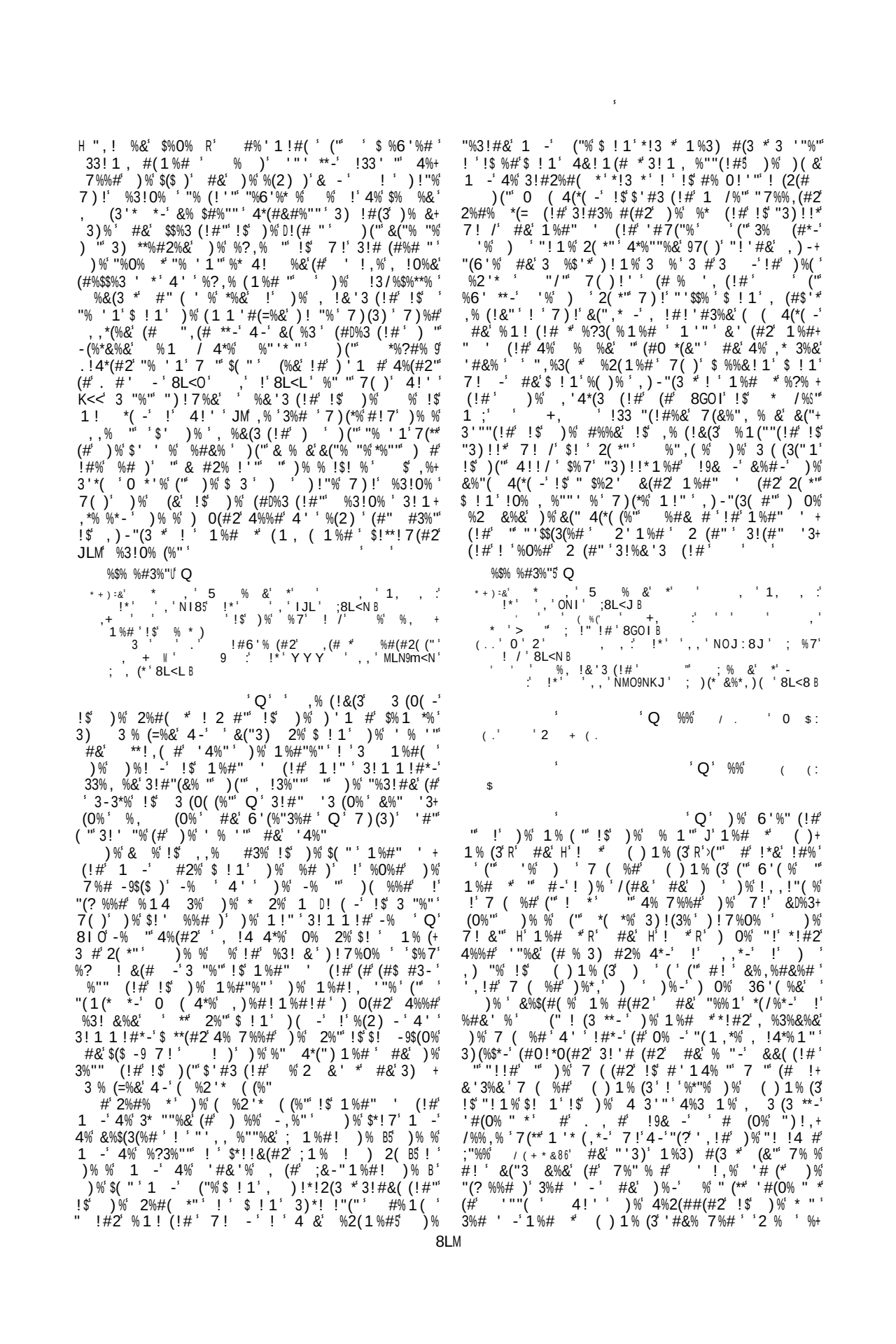

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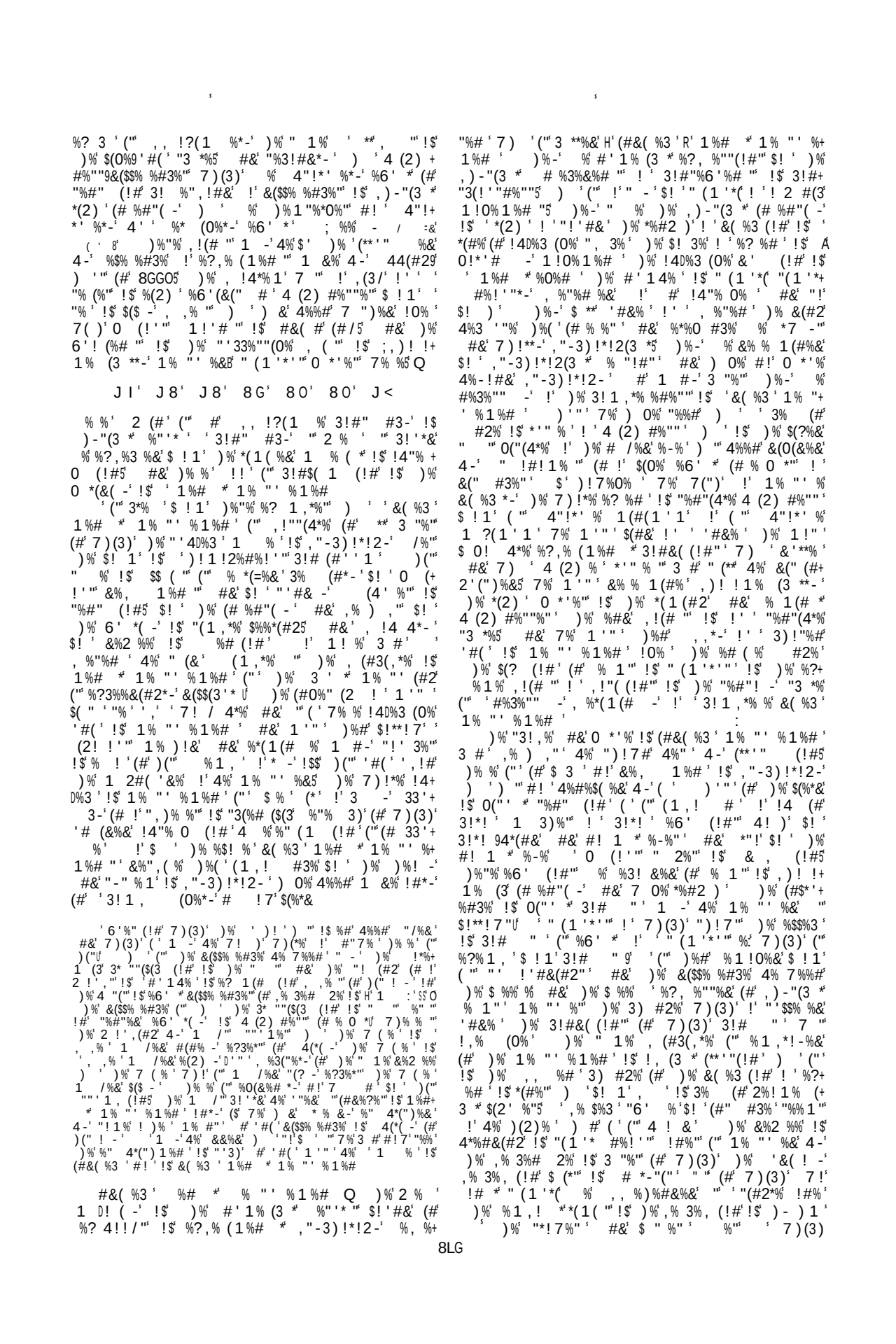

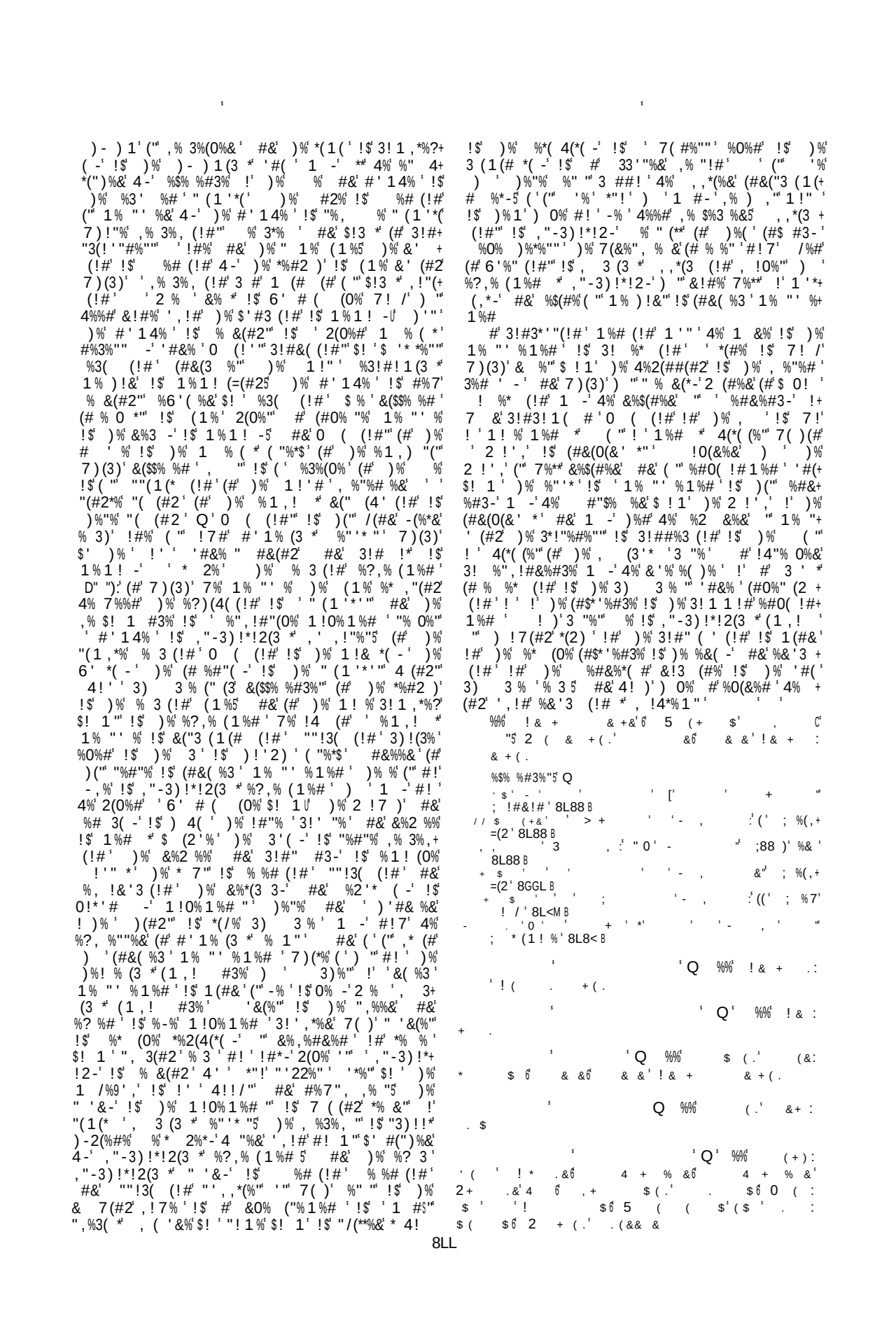

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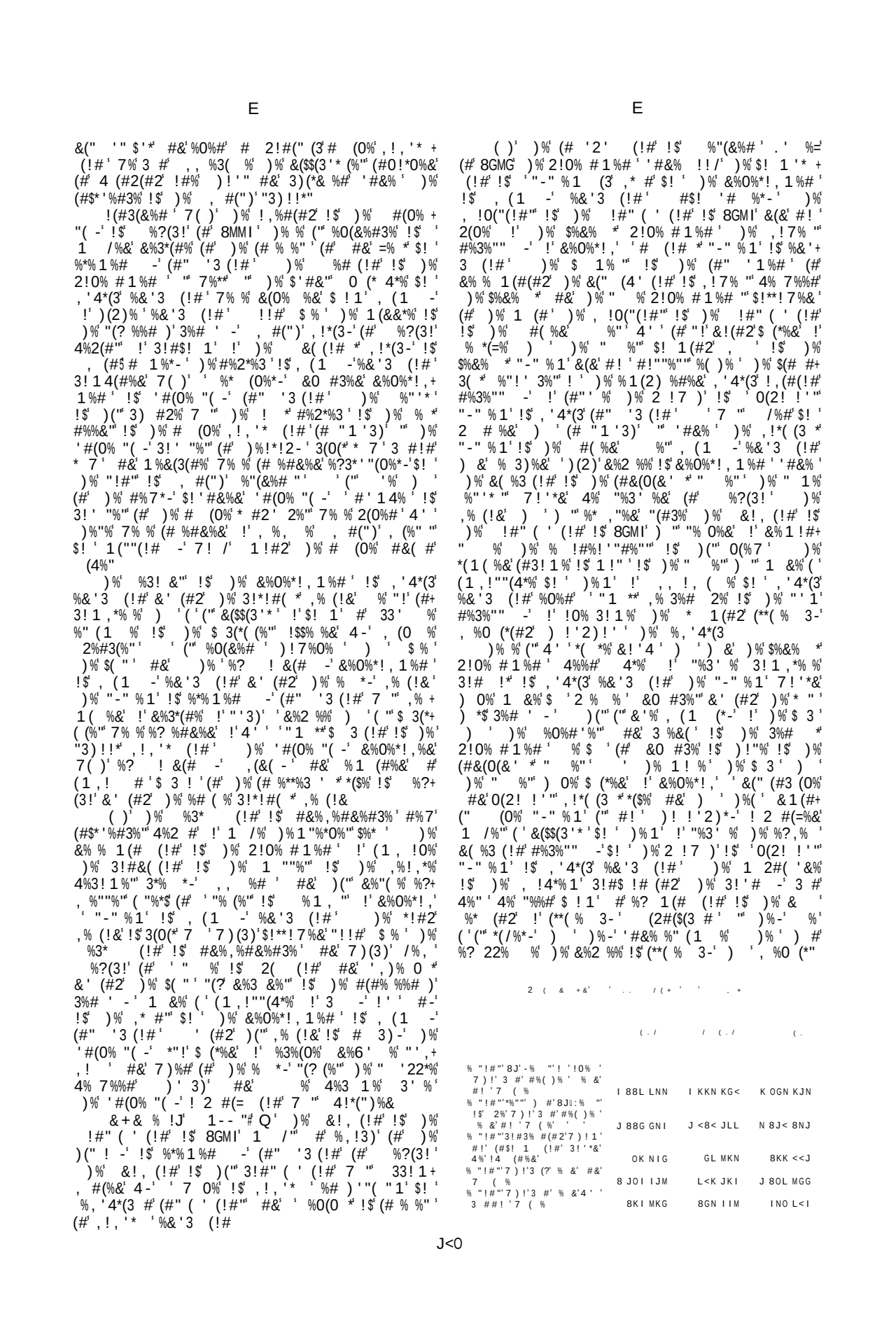

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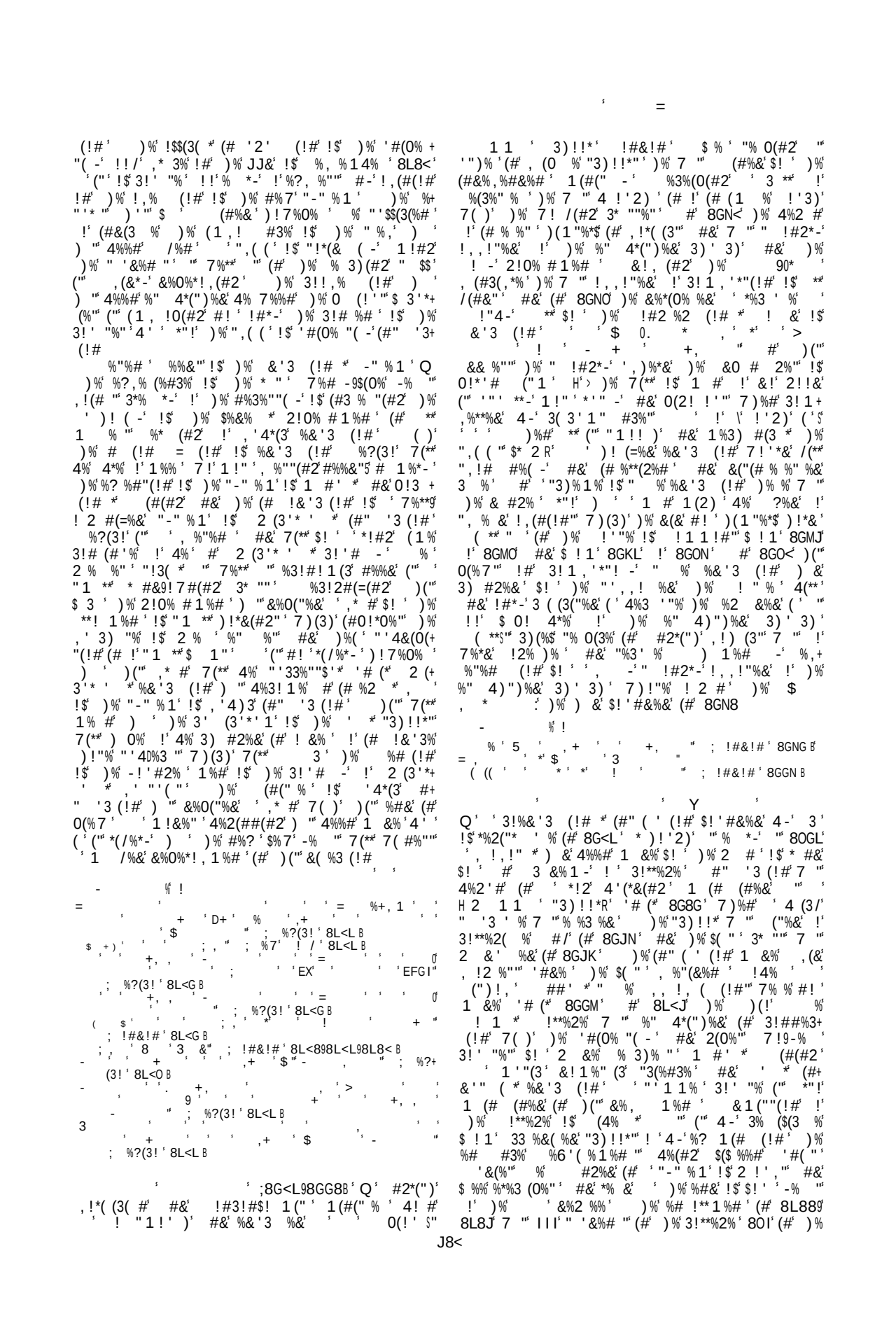

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Higher and Special Education. — The state maintains the University of Michigan (*q.v.*) at Ann Arbor, opened in 1841, which is one of the largest and best of the American state universities, and one which has long rendered important service. The state also maintains the Michigan Agricultural College (*q.v.*) at East Lansing, opened in 1857; and the Michigan College of Mines (*q.v.*) at Houghton, opened in 1886. These stand as the culmination of the system of public instruction provided by the state. In addition to these, the following institutions within the state offer collegiate instruction: —

Institution	Location	Opened	Control	For
Albion College	Albion	1843	M.E.	Both sexes
Hillsdale College	Hillsdale	1855	Nonsect.	Both sexes
Kalamazoo College	Kalamazoo	1855 (?)	Bapt.	Both sexes
Adrian College	Adrian	1859	Meth.Prot.	Both sexes
Olivet College	Olivet	1859	Cong.	Both sexes
Hope College	Holland	1866	Refd.	Both sexes
Detroit College	Detroit	1877	R.C.	Men
Alma College	Alma	1887	Presby.	Both sexes

The state also maintains the Michigan School for the Blind, at Lansing; the Michigan Employment Institution for the Blind at West Saginaw; the Michigan School for the Deaf, at Flint; the Michigan State Public School for poor and dependent children, at Coldwater; the Michigan Home for Feeble-Minded and Epileptic Children, at Lapeer; the State Industrial Home for Girls (reformatory), at Adrian; and the Michigan Industrial School for Boys (reformatory), at Lansing. E. P. C.

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MICHIGAN, UNIVERSITY OF, ANN ARBOR, MICH. — The first of the state universities to take and hold a position of prominence and leadership among American universities. It was the first institution to utilize with some degree of wisdom the Congressional land grants, made from 1787 onwards, for the promotion of higher learning in the newly created states. The Constitution of 1835 under which Michigan came into the Union made it obligatory upon the legislature to create from the sale of these lands a permanent endowment for a university and to provide a secure investment for the funds. The first legislature, acting under the advice of the State Superintendent of Public Instruction, John D. Pierce (*q.v.*), passed the enabling act of 1837 under which the Regents, eighteen in all, were to be named and the various departments provided for. Following the Prussian idea, the new institution was distinctly thought of as an integral and crowning part of a state system of public instruction, and it has come more and more to realize this ideal. Three departments were specified: (1) The Department of Literature, Science, and the Arts; (2) The Department of Law; (3) The Department of Medicine. There were also a number of so-called "branches" in different towns, which were fostered by the Regents as tributary to the University; but for lack of funds these had to be left to their own fate after a few years, and in their place sprang up the union or high schools which continued to supply the need. The University was opened for students in 1841, and the first class consisting of eleven members was graduated in 1845. Defects in organization soon became apparent; and the constitution of 1850 reconstituted the governing board, reducing the number to eight, and adding very materially to its powers. The Regents now became a constitutional body and were given absolute control of all moneys received from the interest fund and from fees, without any interference or direction from the state capitol. This feature of the fundamental law, which all subsequent revisions have left unchanged, was at that time unique and is generally believed to have been an important factor in the subsequent prosperity of the institution.

The new constitution directed the Regents to appoint a President who should preside at their meetings (but without a vote) and who should be the principal executive officer of the University. The choice fell upon Henry Philip Tappan, of New York, a graduate of Union College and of Auburn Theological Seminary, a man of wide experience as an educator, and a writer of repute on educational and philosophical subjects. This appointment may be considered the most important single event in the history of the University. During the eleven years of the Tappan administration (1852–1863) the institution was transformed. A nonclassical course was offered, and the degree of Bachelor of Science was first conferred in 1855; courses in engineering were established; the chemical laboratory was built; the astronomical observatory was opened, with Dr. Francis Brünnow as director; graduate study was projected and a beginning made; a department of law was organized (1859). The attendance was quadrupled and became national in character. Names now

UNIVERSITY OF MICHIGAN.

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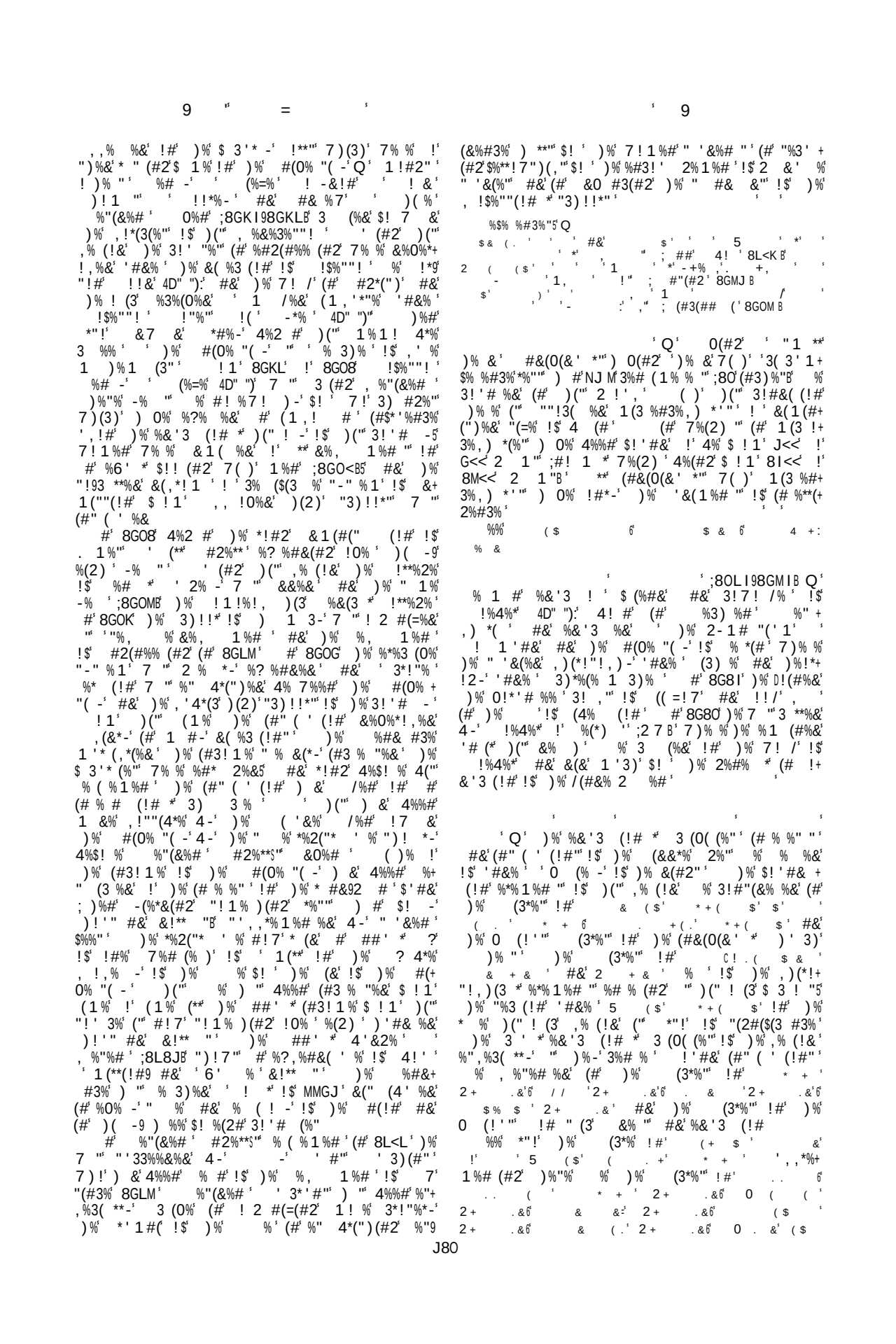

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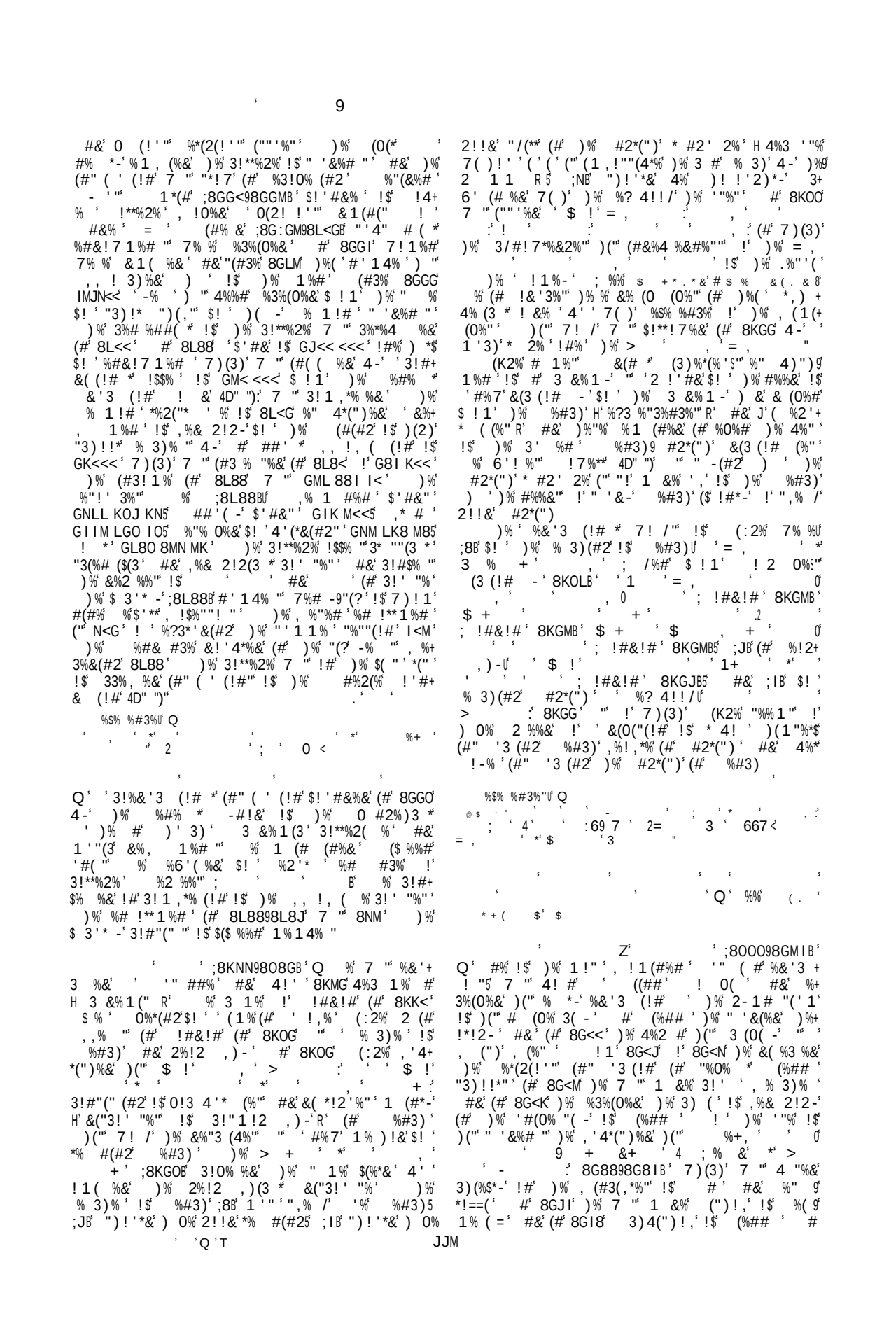

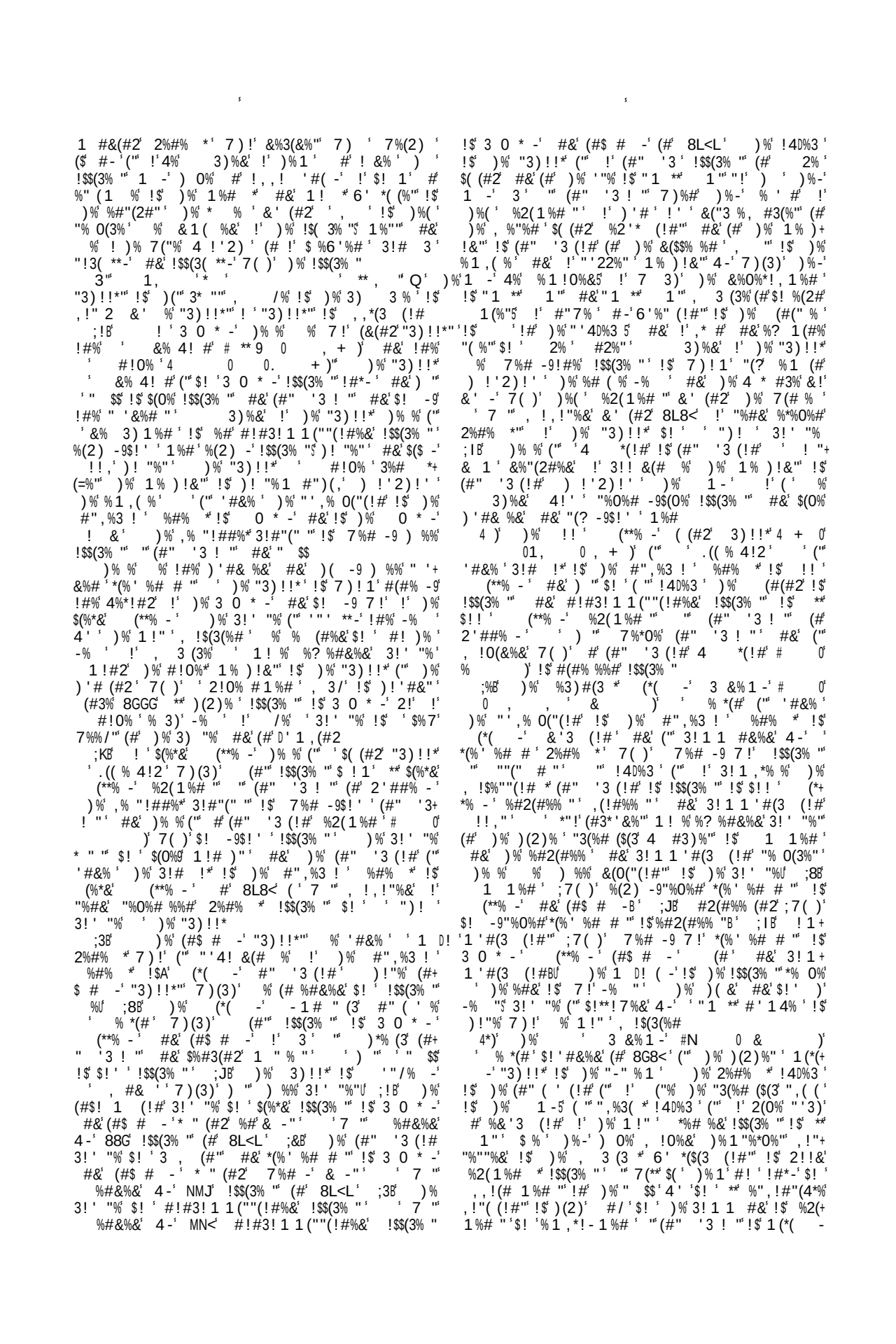

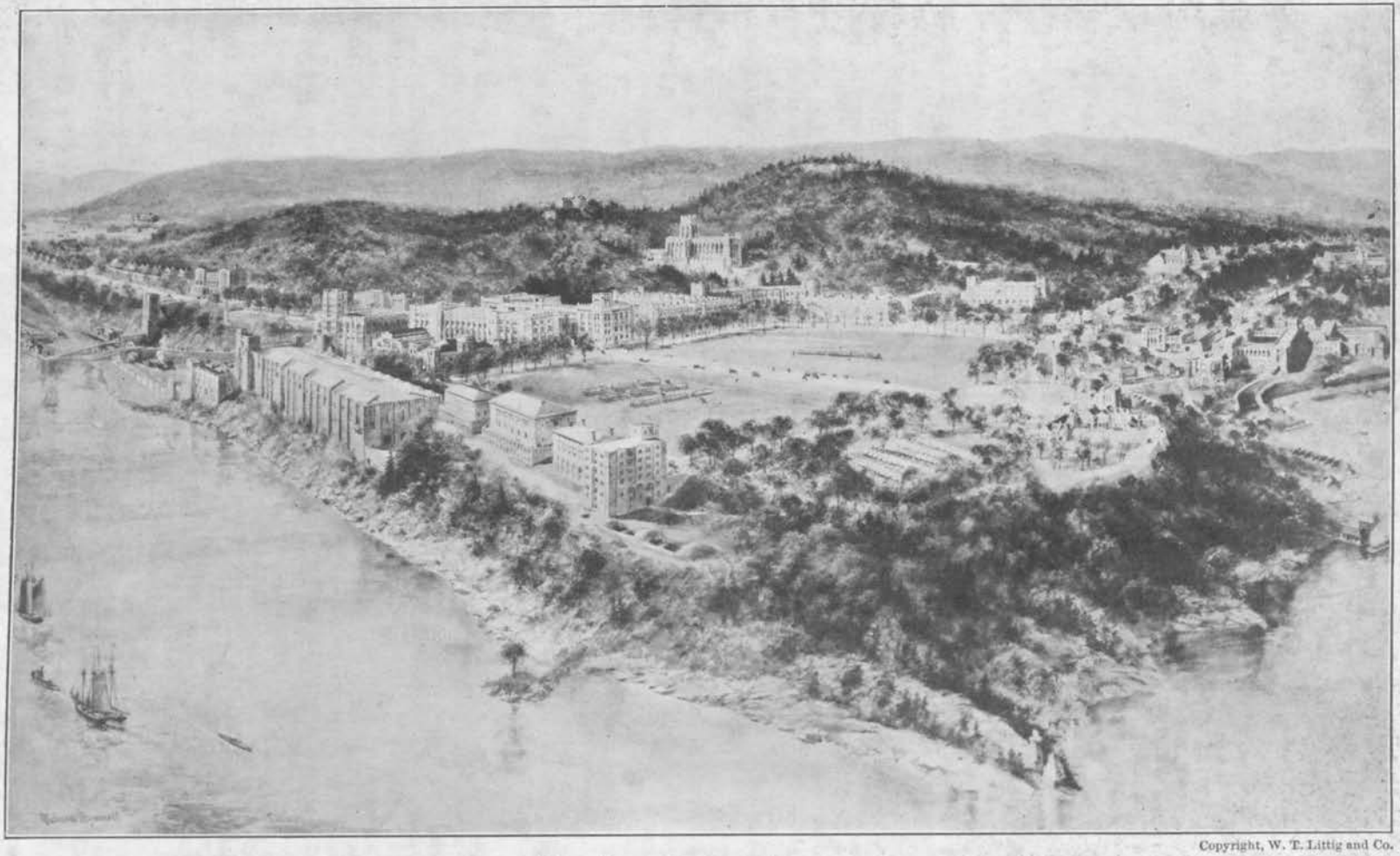

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West Point Military Academy.

didates allowed to each being regulated by law. The course lasts four years. A qualifying examination is required, or a certificate of graduation at a public school of good standard. All expense is borne by the government. The Military Academy closely resembles the military scientific and technical schools of other countries, where cadets are prepared for engineers, coast artillery, and other scientific branches of the service. Its prototype in Europe would be the Military Academy at Modena, in Italy, or the Polytechnic School of France.

The West Point system developed by itself, and probably was little influenced by other schools. One of its most distinctive features, for which great merit has been claimed, is due to the provision in the law of 1812 which prescribed that cadets shall " be trained and taught all the duties of a private, noncommissioned officer and officer." The result is to give instruction in the duties of all arms of the service. In other countries this part of an officer's military education is usually given in two probationary periods of service in the ranks with troops, and that the duties of all arms are not learned by all officers. Much unjust criticism of West Point has been due to ignorance of its place in military education. Always a preparatory school of a high class, it has never been a war college. Its greatness is due to the high character of its graduates, and not to the course of study pursued by its alumni. The higher duties of command must be learned in another school. The suggestion has been made that perhaps it is time to defer to foreign experience in the plan of the Military Academy, and to form each class into two sections, one an Engineer-Artillery section and the other a Cavalry-Infantry section, each with a course of study appropriate to future service.

The second class of cadet schools is composed of certain civil schools in which " Military Science and Tactics " forms a part of the curriculum. It is a large class of nearly one hundred institutions, although only ten of them have the privilege of furnishing commissioned officers to the army. At these schools there are ninety-two officers detailed as military instructors.

At the inspection of 1910 22,147 students were present. About 10 per cent of the attendance in 1909 were at ten schools rated as " Distinguished," and another 10 per cent were at strictly military institutions. About 15 per cent had target practice on the range. A part of the attendance consists of boys under fifteen years of age, and in this respect these schools are like the junior cadet schools.

Under the provisions of General Orders, No. 231, War Department, Nov. 16, 1909, these institutions are divided into five classes, as follows: —

Class A. — Schools or colleges whose organization is essentially military, whose students are habitually in uniform, in which military discipline is constantly maintained, and one of whose leading objects is the development of the student by means of military drill, and by regulating his daily conduct according to the principles of military discipline.

Class B. — State land grant or agricultural colleges established under the provisions of the act of Congress of July 2, 1862, which are required by said act to include military tactics in their curriculum.

Class BA. — Any college of Class B which attains the state of efficiency required for schools or colleges of Class A shall be classed as BA.

Class C. — All schools or colleges not essentially military which maintain a course of military instruction equal or superior in character and hours of instruction to that required of institutions of Class B.

Class D. — All other schools or colleges at which officers of the army may be detailed and which do not maintain a course of military instruction equal to that required of institutions of Class B, and at which such instruction is regarded as nominal.

Institutions, not exceeding ten, whose students have exhibited the greatest application and proficiency in military training and knowledge during the year are designated annually as " Distinguished Institutions."

B. Schools of Application. — These are provided for every branch of the service.

(*a*) The Mounted Service School at Fort Riley, Kansas, for officers and noncommissioned officers of the Cavalry and Field Artillery, has three courses: (1) Training school for officers. (2) Training school for horseshoers and farriers. (3) Training school for bakers and cooks. It has ten officers as staff and military instructors, and thirty-six student officers. The course is one year.

(*b*) The Coast Artillery School at Fort Monroe, Va., has a two-year term divided into three courses: (1) Regular. (2) Advanced. (3) Enlisted specialists. It has an instructional staff of sixteen, and twenty-four student officers.

(*c*) The Engineering School at Washington Barracks, D.C., has a course in civil engineering and a course in military engineering, with a term of one year, five instructors, and a class of fourteen officers.

(*d*) The Army School of the Line at Fort Leavenworth has four courses in a year of time: (1) Military Art. (2) Engineering. (3) Law. (4) Languages. It has twenty-four officers in the staff and as military instructors, and thirty-six students. An engineering school of the line is about to be formed at the same place. A portion of the instructors are assigned also to the Army Staff College, to be mentioned later.

(*e*) A School of Musketry for Cavalry and Infantry is provided at Monterey, Cal.

At all military posts there are garrison

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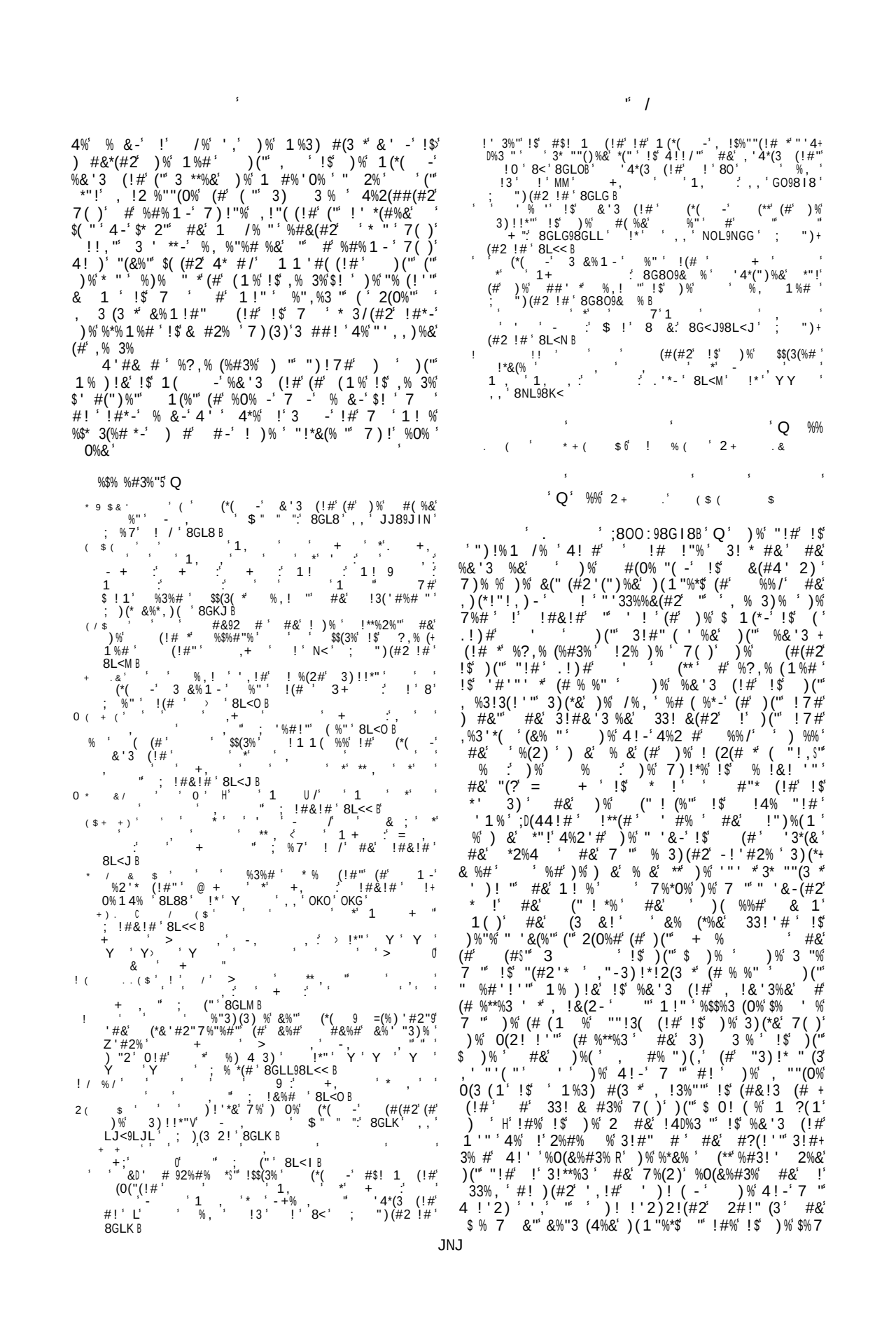

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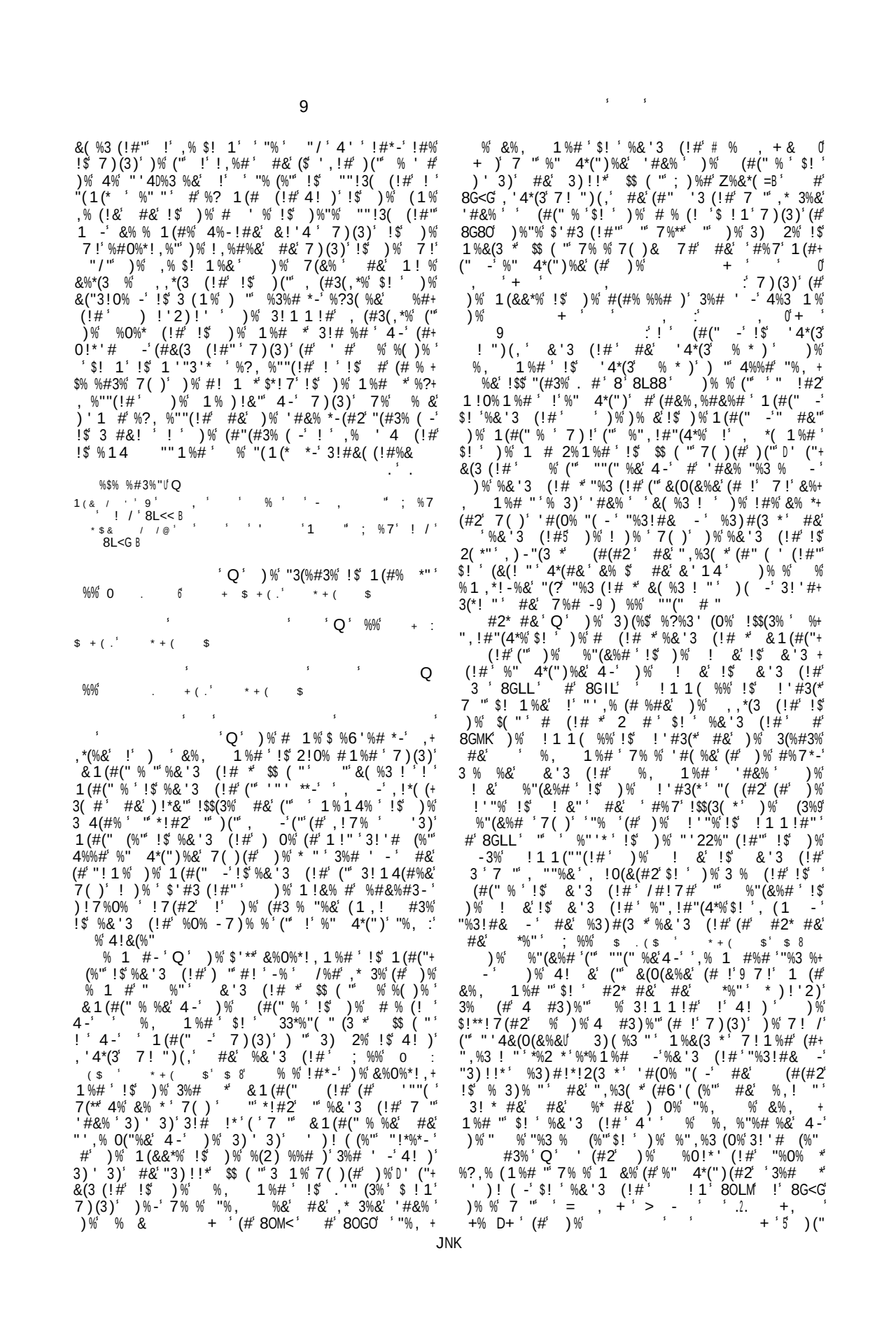

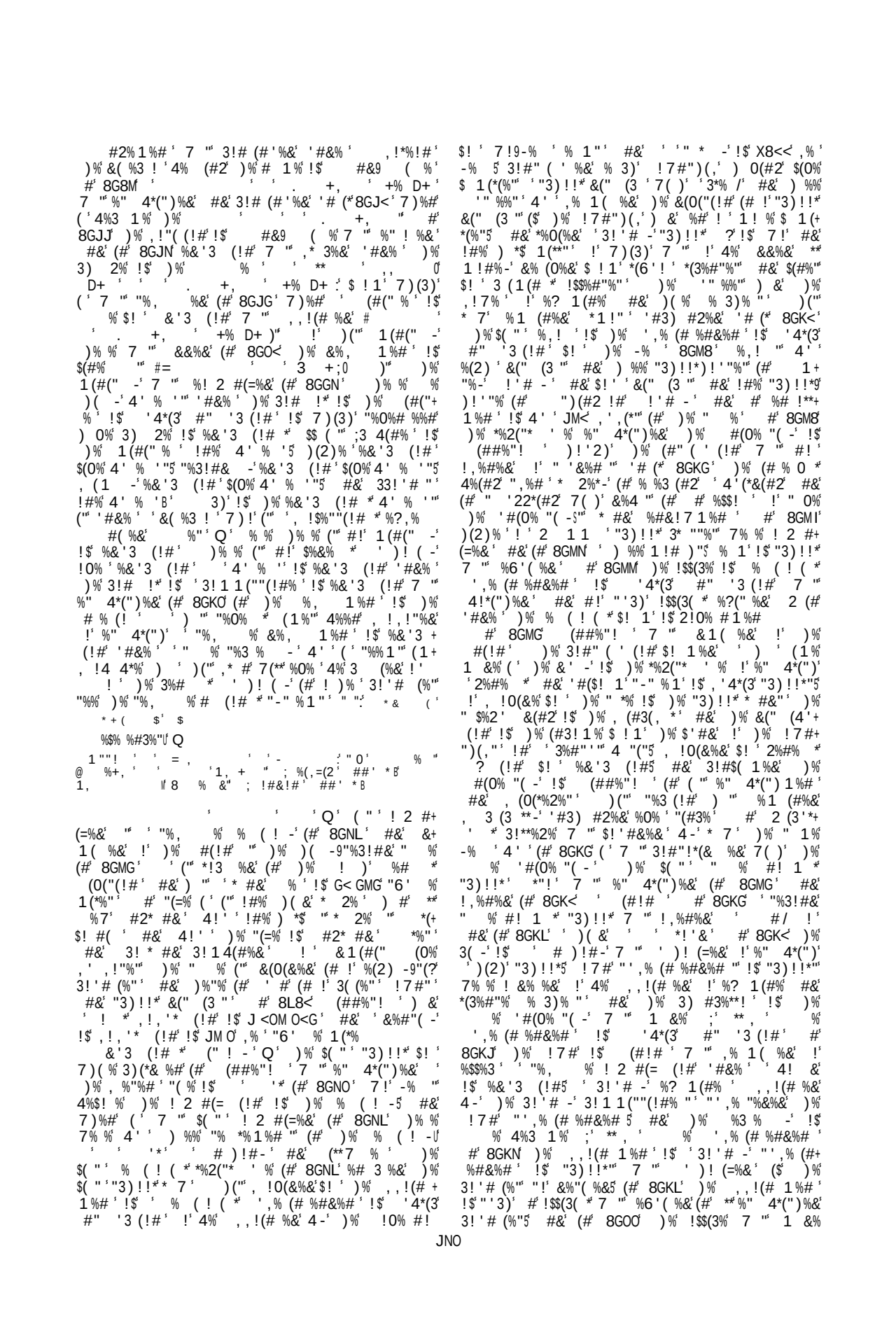

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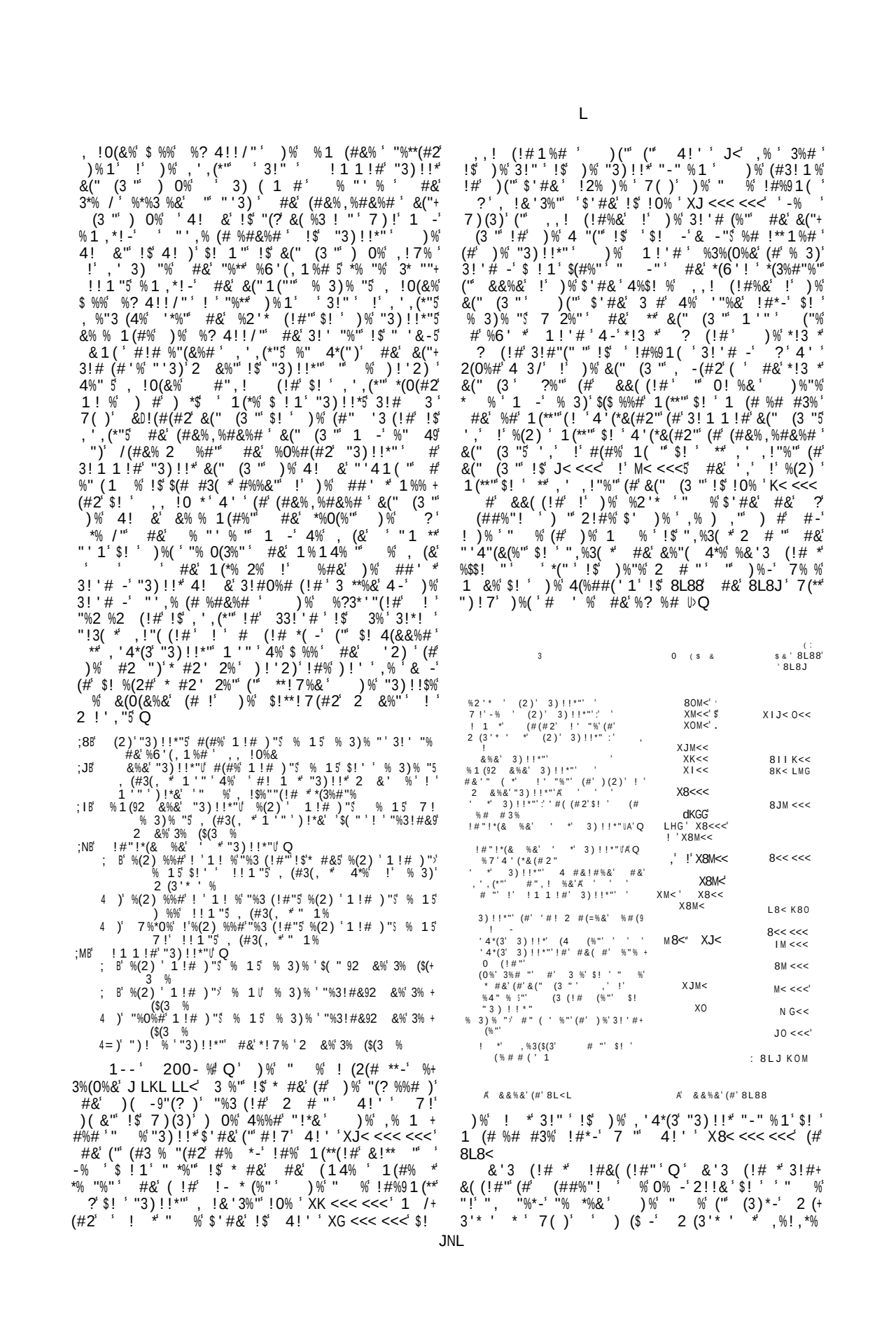
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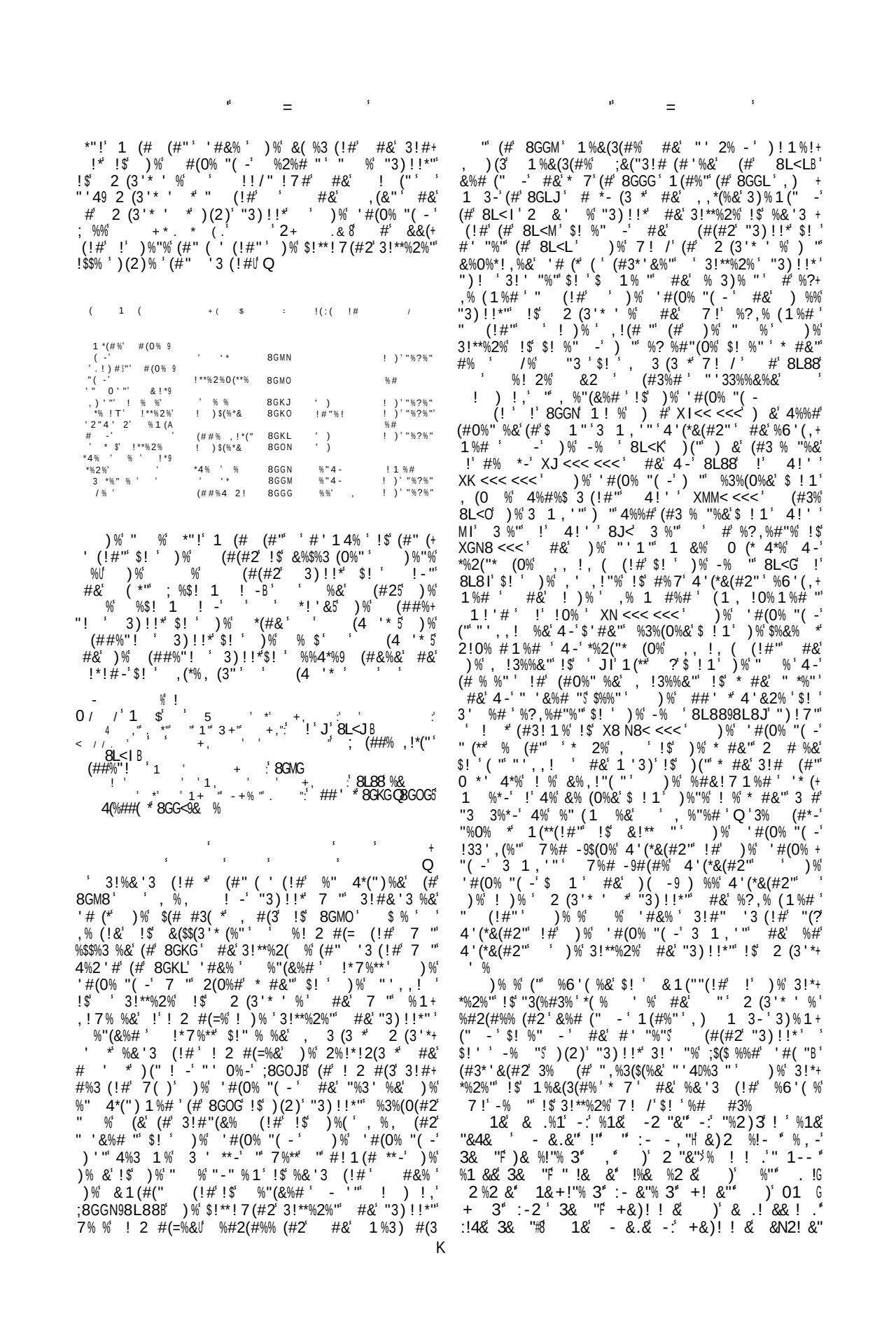


Among the Roman Catholics quite another set of problems presented themselves. Their schools were not as democratic and general as those of the Protestants, but were regarded more as church schools, and were maintained within and for the Church.

The Aim of Mission Schools.—In creating a system of education in the mission field the endeavor has been made from the beginning so to develop the work that it shall belong to the country and not have the appearance of being a foreign educational system imposed upon the country. The teachers in most primary schools, apart from the heads of kindergartens, are natives. The same is practically true in the boarding and high schools, except that occasionally the head of the school, for the present at least, is a missionary. It is not expected, however, that the foreigner will hold permanent control.

In collegiate institutions the great majority of the teachers are natives of the country. In some of these the president is a native, with missionaries working under him, as in the Doshisha in Japan. Even in the theological schools in mission fields, native teachers are employed. It is probably true that the foreigner will keep his hand upon the collegiate and theological institutions longer by far than upon the other schools of the country; how long he will continue to hold dominating influence will depend upon the rapidity with which the country itself develops in moral and educational ability and the native leaders show themselves capable of assuming the larger Christian responsibility. The general policy, however, of mission institutions in this respect has been from the first, and still is, to develop native talent as rapidly as possible and to employ that talent in the educational work.

Support of Mission Schools. — Another phase of this work is the development of self-support. It was early learned by the missionaries that free schools were practically valueless. The Asiatic appreciates that for which he pays something, but is liable to look almost with disdain upon that which costs him nothing. No free school can expect to command the regular attendance of its pupils. There are probably no schools in the world that come nearer to self-support through the tuition paid by pupils than do many of the mission schools of the East. In fact, large numbers of these schools are wholly self-supporting, although still retaining their relations to the mission. Even the collegiate institutions, in some countries like Turkey, secure from the pupils themselves in the form of fees or tuition from three-fourths to five sixths, or even a larger ratio of the cost of the conduct of the schools. The development of self-support has not been so marked in India because of the greater poverty of the class of people who make up the student clientèle. So long as Americans and Europeans remain in any appreciable number as teachers in the mission colleges and universities, financial help from abroad will be necessary for their conduct.

The Character of Mission Schools. — Missionary education has been handicapped for the lack of a model or precedent; the whole plan of education had to be wrought out by the missionaries through long and protracted experiments in each country. Each different country presented new problems to be met and solved. At the same time few of the missionaries had received scientific pedagogical training. Large numbers had full collegiate training, but with no special reference to the teaching profession. Many missionaries went to the field expecting to engage only in evangelistic enterprises, but soon found themselves in charge of a large educational work.

It is no wonder then that the development of the missionary educational system, if it could be called a system, was irregular and often unscientific. The hindrances already named were enhanced by the fact that the man who was at the head of a high school, college, or even university was seldom able to give his entire time and strength to that work. Recognizing also that missionary educational efforts from the beginning have been curtailed for the want of proper financial support, we begin to realize some of the limitations under which this work has been developed. There is hardly a mission school to-day that is properly equipped. In the marked educational advance of countries like Japan the missionary schools are rapidly left behind. The Eastern governments, becoming alert to the value of modern education, are able to appropriate funds for the erection of buildings and for their equipment, far superior to those of any mission plant. China is making rapid progress in this line at the present time, and even the Turkish Empire, under the new régime, is appropriating large sums of money for developing a national educational system.

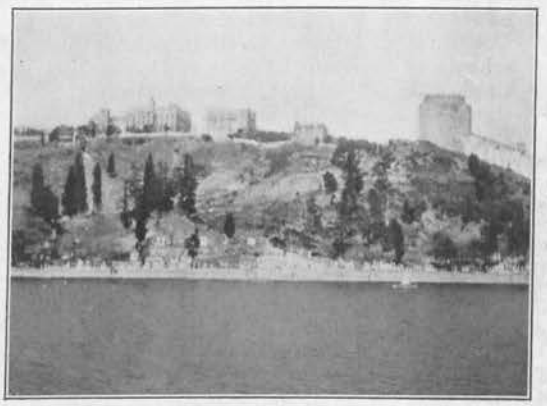
Notwithstanding that missionary work is so defective in equipment and in skilled leadership, the fact remains that the mission schools in most of these countries have been the models which have demonstrated to the officials of the country what can be done in the line of modern education, while, at the same time, they have awakened ambition in the hearts of the people for education. Moreover, though far surpassing the missionary institutions in equipment, in many places the government schools are not popular, because of inability to secure teachers able to command the confidence of the parents and pupils.

Courses of Instruction. — It is impossible within the limits of this article to give any adequate conception of the courses of study offered in the higher collegiate missionary institutions. In each case and in every country the missionary college offers a curriculum that places it among the first educational institu-

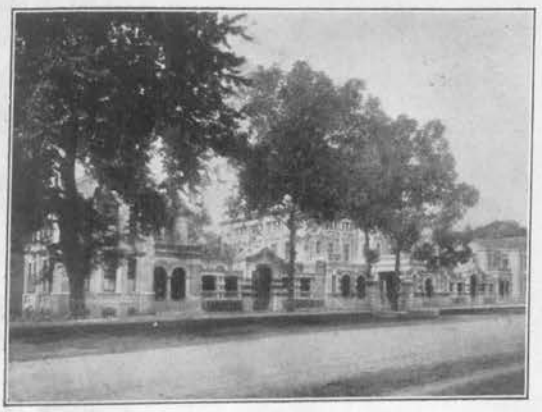
St. John's College, Shanghai, China.

An Elementary School in Africa.

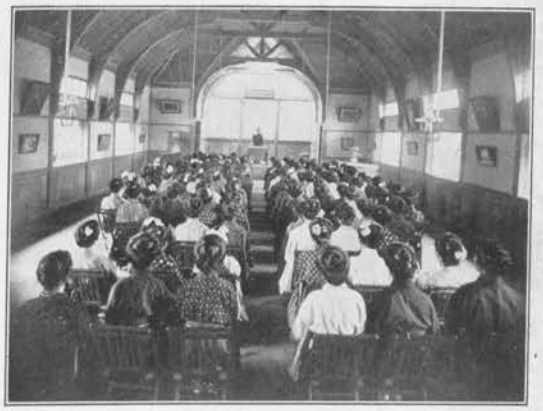
Reid Christian College, Lucknow, India.



Robert College, Constantinople.

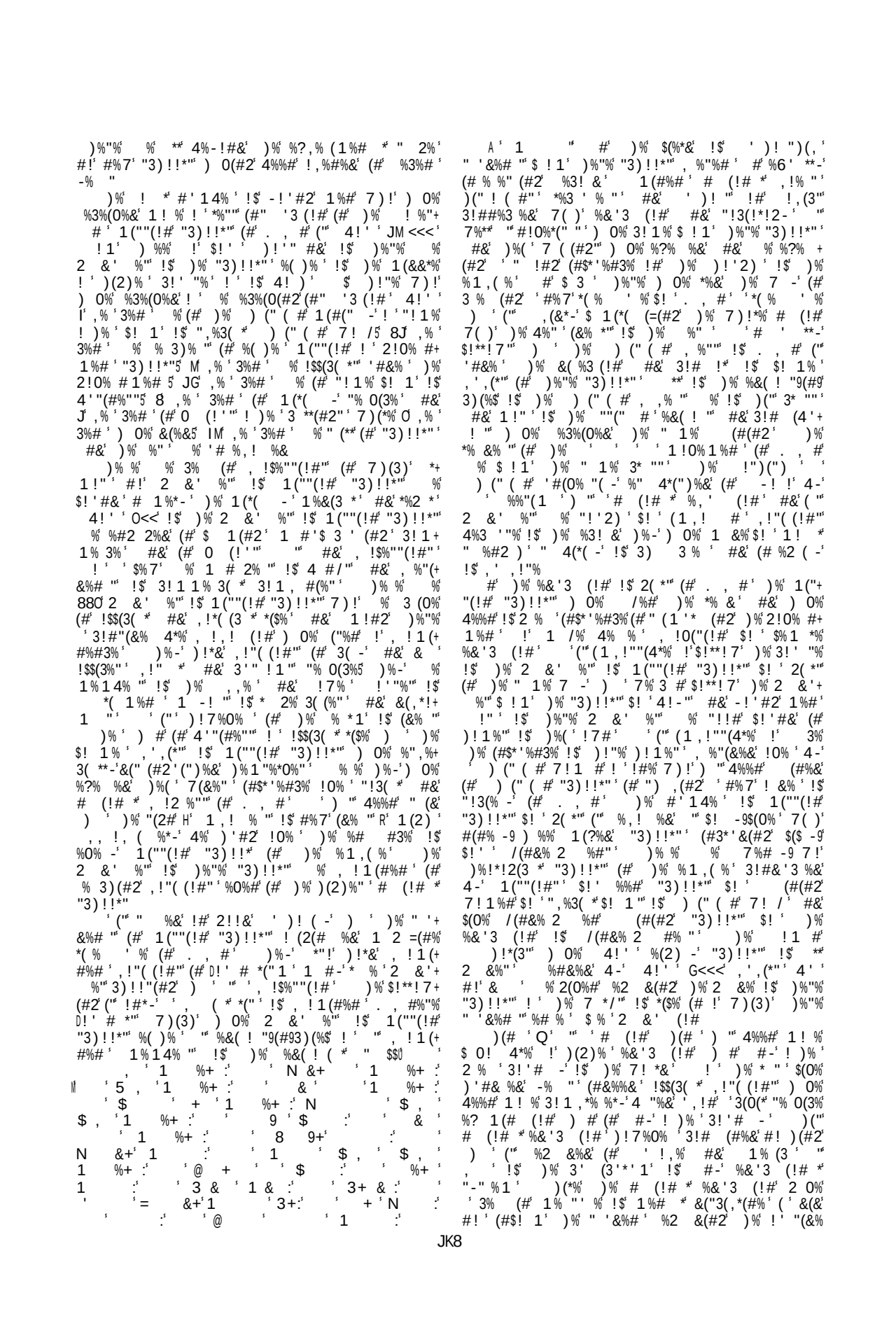


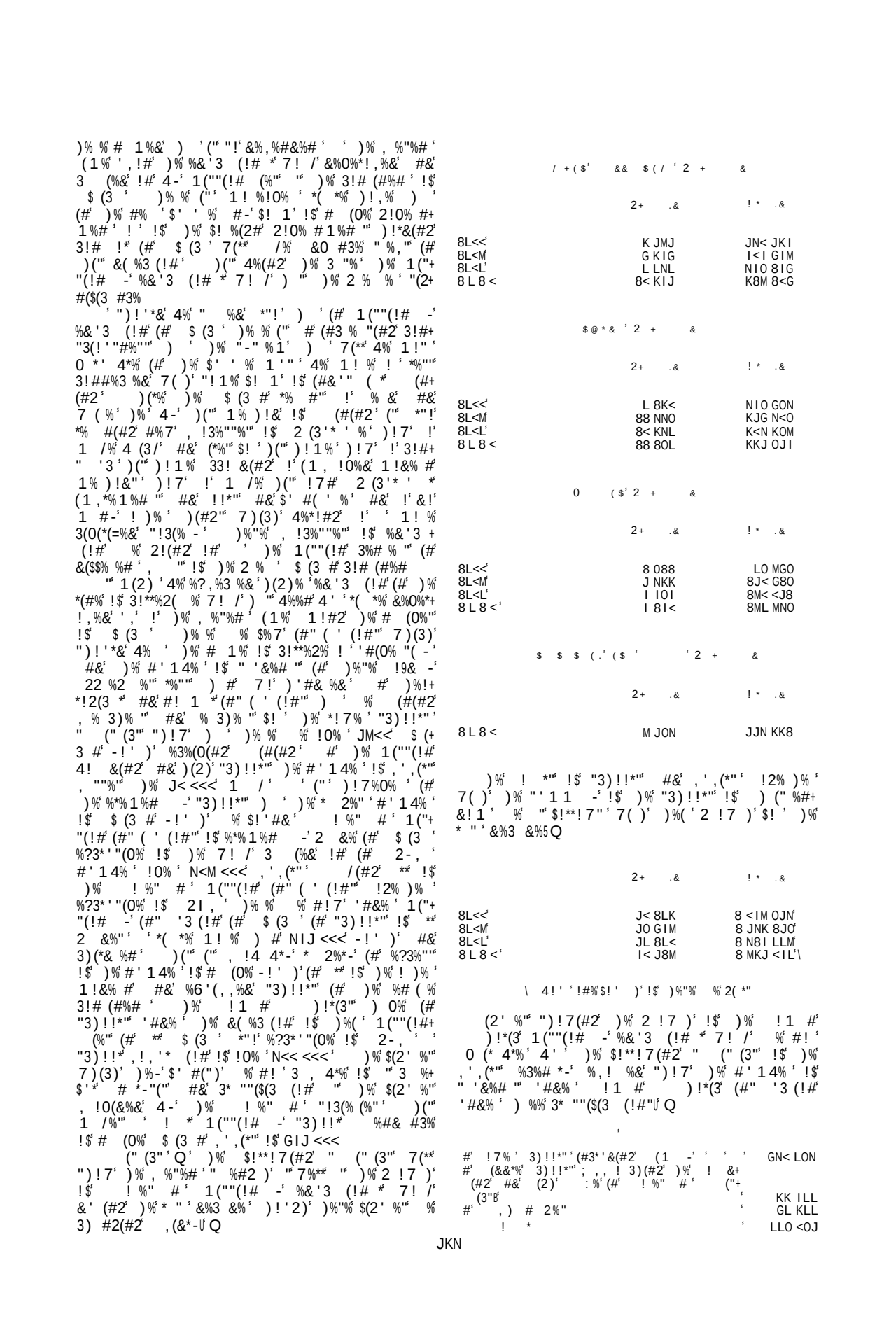
Baptist College, Rangoon, Burma.

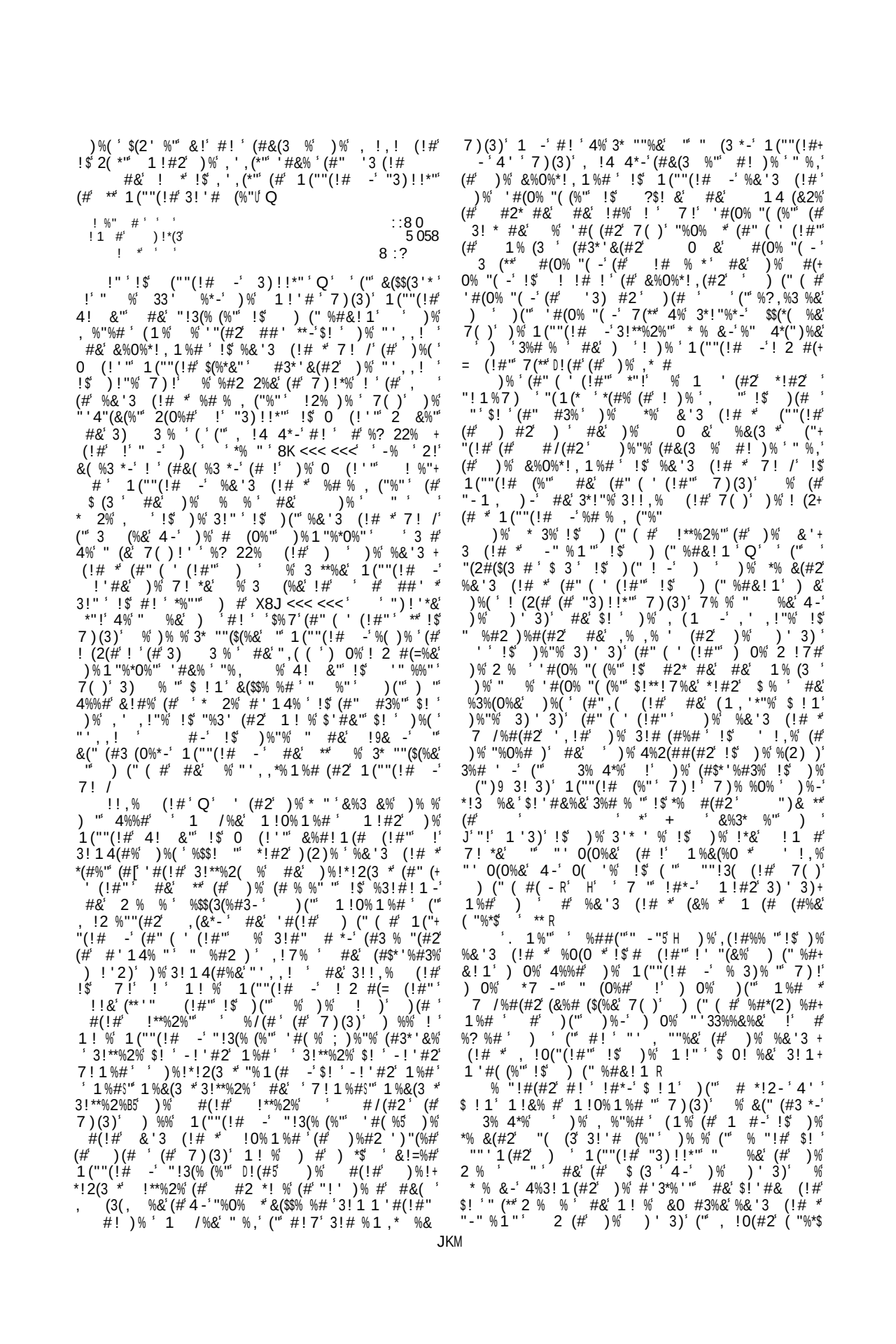


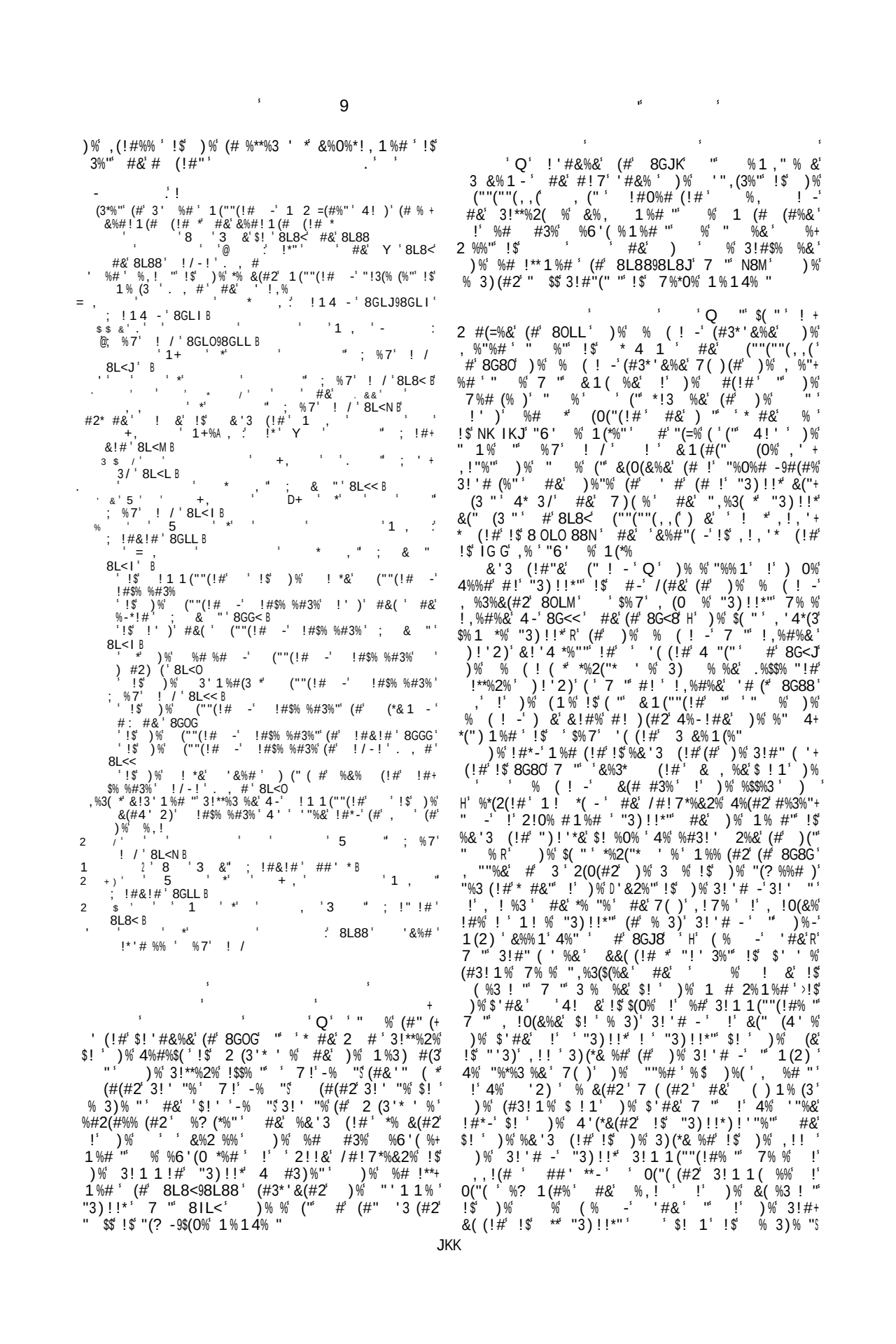
A Mission School for Girls in Japan.

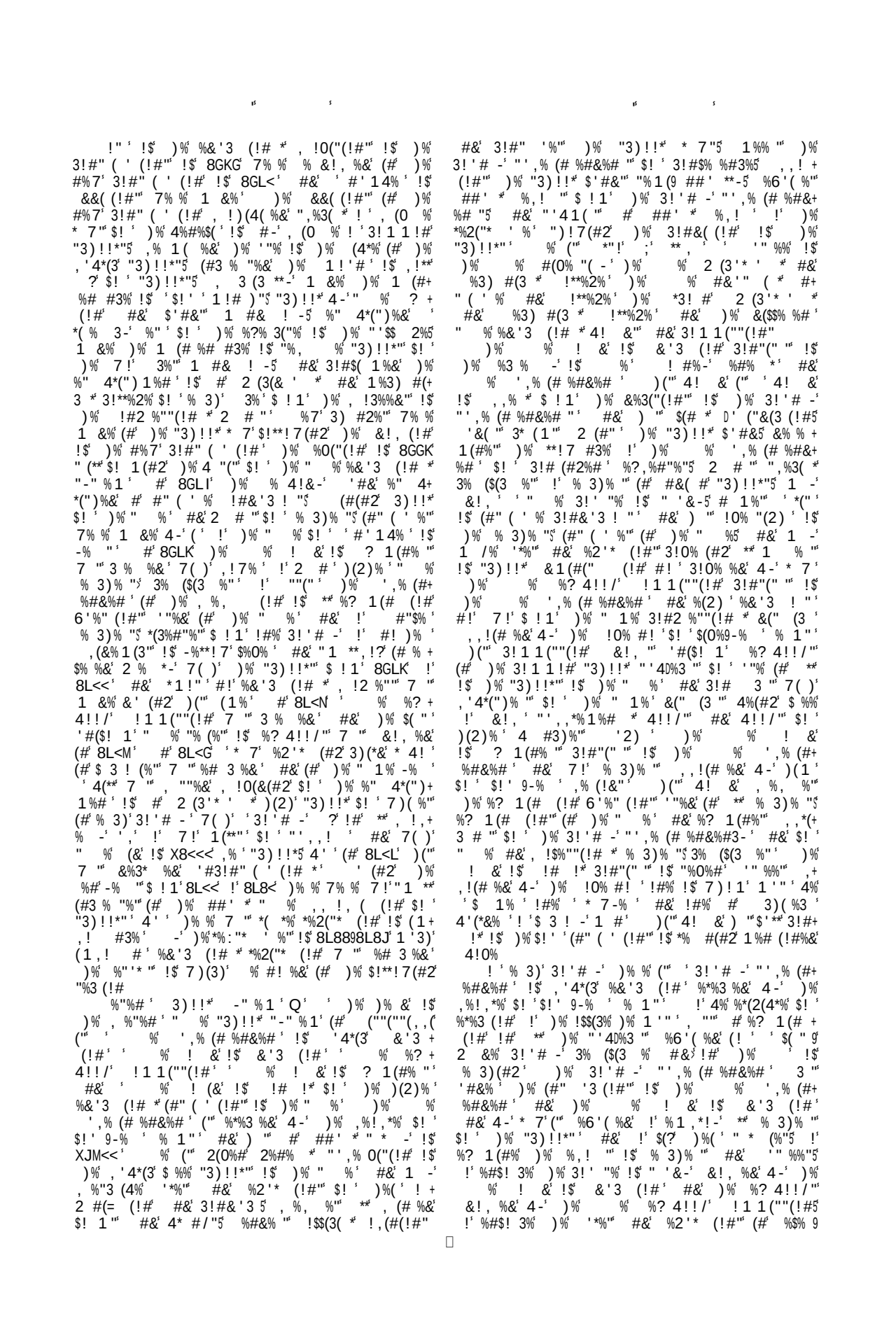
TYPICAL MISSIONARY EDUCATIONAL INSTITUTIONS.

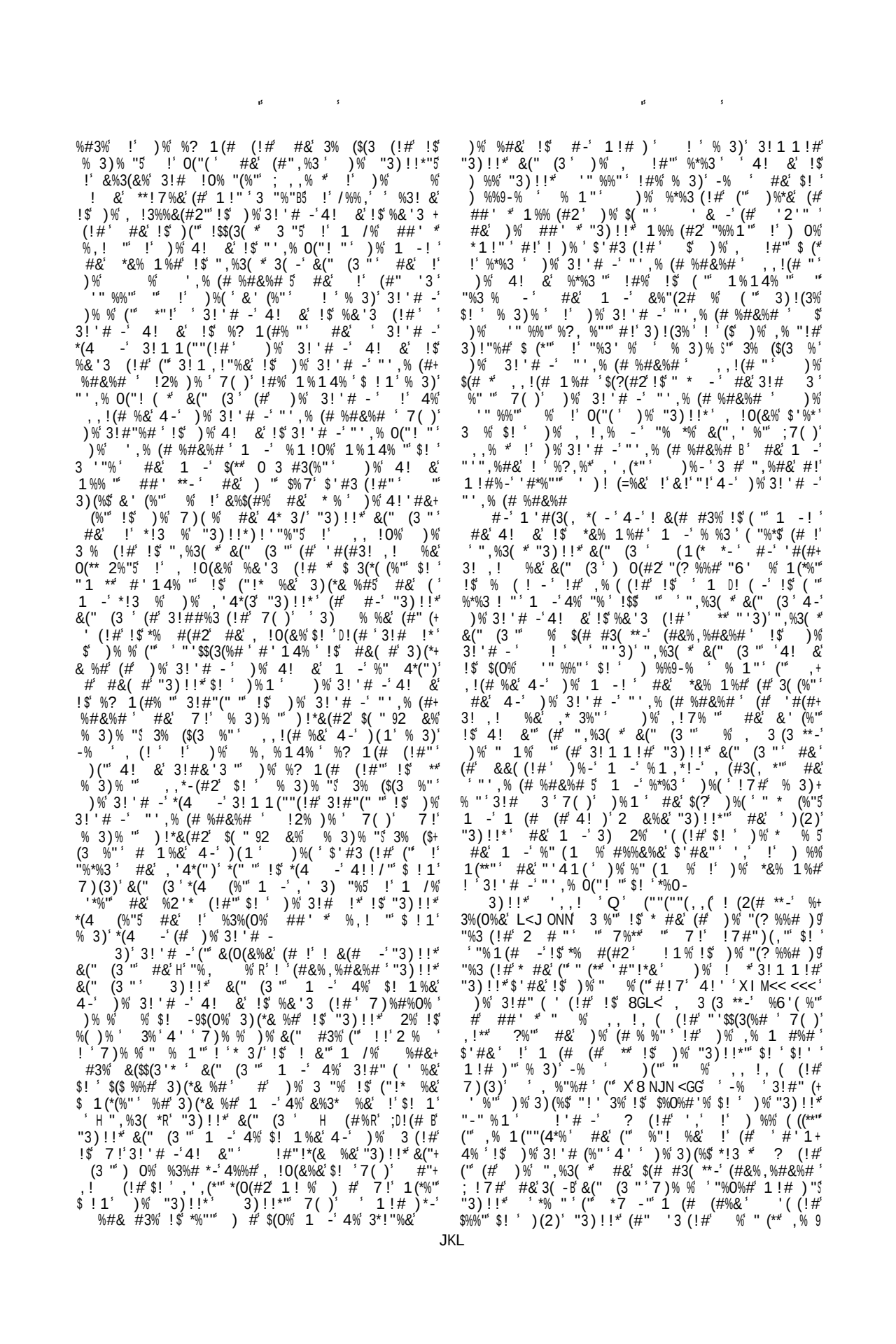












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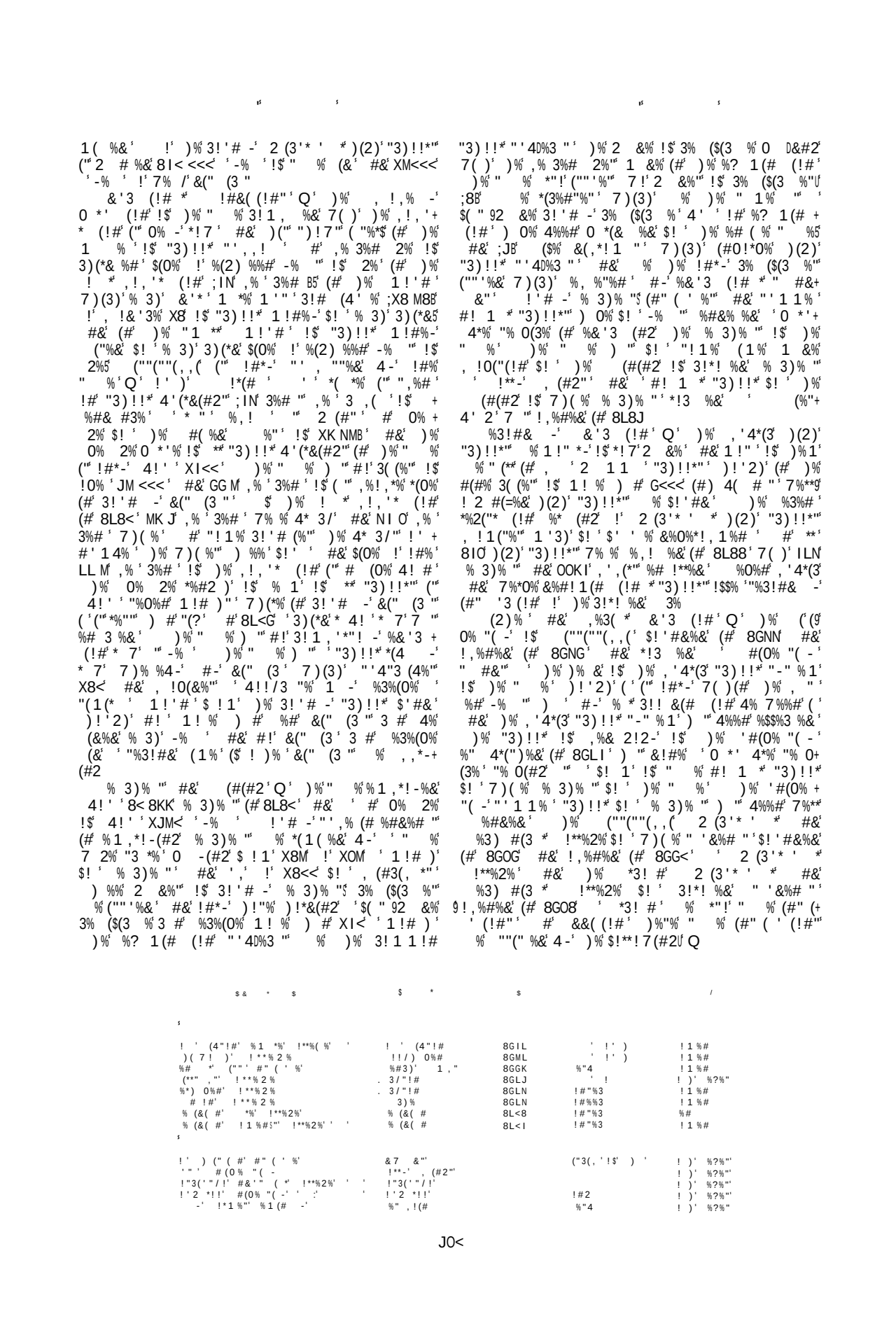

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' ' ' ' Q' ' 3!%&'3 (!# *' (#" (' (!#' $! 1(#2' , ' !$')%' ,'4*(3' "3)!!*' "-" %1' !$')%' " %' !$' ("" !' ('$!'#&%&' (#' 8GIL')%', %"%#' ! 2 #(= (!#' 7( )' 7!' 3!**%2%"" ; "" #&' 3(%#3%' #&' 2 (3'*' %5' #&' "3)!!*"" $!' , !$%""(!# * #&' 2 &' %' 7! /' 7 "" &!, %&' (#' 8L<L')%' "%, %' &(0("(!#"' % 3)' !$' 7)(3)' 7 "" (#' "!1%$! 1' &($+ $% %# (%&' $!1')%' %"' !$')%' (#" (' (!#' (#')%' -% ' (#&(3 %&' %U' !**%2%' !$' "" #&' 3(%#3%' ;8GILB5' 3)!!*' !$' &'3 (!#' ;8GKOB5' 3)!!*' !$' (#%"" #&' % **' 2-' ' !**%2%' !$' 2 (3'*' ' %' ;8GO<B5' 3)!!*' !$' (#%"" #&' % **' 2-' ' !**%2%' !$' 2 (3'*' ' %5' #&' (#' &&((!#' 7!' -% "" !$' 3!**%2%' 7! /' $!' ' **')%' !)%' "3)!!*"')%"%' %6'(%1%# "' 7)(3)' % !#')%' 3% ($(3 %' 4 "(" ') 0%' 4%%#" (3 *-' &1(#(" % %&' #&')(" ,!*(3-')"" (1'* %&' #&' 4'(*' ' ,' #' %?3%**%#' "-" %1' !$' "%3!#& -' "3)!!*"" (#')%' " %')%' (#" (' (!#' 7 "" !#%' !$')%' $("' $!' ' " %' '#(0% "((%"" &1(%&' !')%' 4%#%$("" !$')% #%2(%' !'#& (!#

)%' $(# *' 3!# !*' !0%')%' (#" (' (!#' ("" 0%" %&' (#')%' ! &' !$' ' ! "' 7)(3)' ("" D[' ,!(# %&' 4-')% !0% #!' !$')%' " %' #&' ("" 2 # %&' * 2%',!7% "" 4-')%' " %' 3!#" (' (!#')%' (# % # *! 2 #(= (!#' ("" 4 "%&' !#' 2%#% *' '#(0% "(-' $ 3'* -' !$' **' % 3)% "" !$')% #!' !$' ""(" #', !$%""!' #&' 4!0%' #&' ",%3(*' $ 3'* (%"" $!')%' 0 (!'"" &(0("(!#"')%' '#(+ 0% "(-' $ 3'* -' ""'1%"" #' '#'"' **-' * 2%' &%+ 2 %% !$' %",!#"(4(*(-' #&' !'(' %,!' 1 #-' !$')%' 3!11(%%"") (#" "(1(* (#" (' (!#"" %,! ' !')%' 4! &' !$' 3!# !*

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›)%(#" (' (!#') "" ', !&'3 (0%' %#&!7 1%#' $'#&' !$' X8 JMG GIL' #&' %3%(0%"")%' (#3!1%' !$' M', %'3%#' " % ?' !#' 3!** % *(#)% (+ #3%"' *1!" ' !#%')(&' !$' ("" (#3!1%' ("" &% (0%&' $!1')%' 2%#% * %0%#'%"" !$')%' " % 4-' *%2("* (0%' , , !, ((!#"' ' 1!0%1%#' !' 2(0%')%' '#(0% "(-' !)%', % 1 #%#' "', + , ! ' "" ' "'4" (' %' $!' *%2("* (0%' , , !, (+ (!#"") "" 4%%#" '#&% 7 -' $!' "%0% *-% "' 4' "'!' $ ') "" #! ' 4%%#" "'33%""$'*') %' %3%(, "" $!1' $%%"" % (#"(2#($(3 #') %' ! *' (#3!1%' $!' 8L88' 7 "" XGOM <<<')%' %# !**1%#' !$' " '&%# "" $!' 8L8898L8J' 7 "" I<KI' *4% ' !""" (**' ' ("")%', %"(&%# '

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' % 1'7)(3)'(# '" (' #& !')% # % 1 #-' (" , ,*(%& ! ')!"% "3)!!*" 7)(3)' % (# %(:' 1%&(% 4% 7%%#)% %*%1%# -' "3)!!*" #& '#(0% "((%"#5 , +):' " " "%3!#& -' "3)!!*" ' #' '""(' #&)% " %" 7)!"%"-" %1" % 1!&%*%& !# ' ""(' ' , + ' (" ' -,% !$ "3)!!* 7)(3)' $' #(")%" ')(2)% ' %*%1%# -' %&'3 (!# , %, ! -' !)%)(2)% ' (" # !33', (!#" #&)% *!7%' 3!11% 3(* #& &1(#(" (0% ,!"((!#" ' (" 33! &(#2*-' (# % 1%&(% 4% 7%%# %*%1%# -' #& "%3!#& -' "3)!!*" ')(" -,% !$ "3)!!* ! (2(# %& ! 7 & ')% %#& ! $)% %(2) %%#)' 3%# ' -' #&) " 4%%# /#!7# '#&% ' 1 #-' &($$% %# ' # 1%" 4 " " ' 3+ , + :' 1 , + :' % ' 3+ , + :' & , + :' % 3 B ' ' 7 " #! ' !$$(3(**-' %3!2#(=%& '# (*)% %#% * %2 '* + (!#" !$ 8GOJ ' 4 ' ' %0%#')%#' (' 7 " #! ' &%$(+ #(%*-' ! 2 #(=%& ' "!') ' "%0% * -,%" %?(" %&U ;8B 3)%& ! # %*%1%# -' "3)!!*' ;JB ' "%, % "3)!!* 7( )' $(0% ! ' "(?' 3* ""%" /(#2' , ', (*" $!1' %*%1%# -' "3)!!*" ;IB ' "%, % "3)!!* 7( )' #(#% 3* ""%" ')% 1(&&*% "3)!!* (" %" 4*(")%& #& 1 (# (#%& %# (%*-' 4-' *!3 * %$$! " ' #& %3%(0%" #!' 2 # " $!1')%

2!0% #1%# ' %#3%)% 3' (3'*' 1' 3 # 4% & , %& !' 1%% ' *!3 * #%%&" ')% !#*-' %+ " (3 (!#' '# (* %3%# *-' 7 ") ')% % 3)% ' %1,*!-%& (# " '3)' "3)!!*" 1 '" ') 0% , ""%&)% , + +*+ ' ! ' %*"% # %? 1(# + (!# $!')(2)% ' "3)!!* % 3)% " ' # 8L8<)% 1(&&*% "3)!!*" 7% % %! 2 #(=%&5)% 3!1,*% % "3)!!* !$)(" -,% 1 '" ') 0% #(#% 3* ""%" ' 4 ' , ', (*" 1 -' %# % ' (# !')% "(?)' 3* "" ; * "" ' (")%)(2)%" B $!1')% %*%1%# -' "3)!!*"5)% 3' (3'*' 1') " 4%%# &%$(#%&5 #& ' 1!" (1,! # " "'3)' "3)!!*" 1 -', %, % $!')% "%3!#& -' "3)!!*" ', !)% , %"%# ')% , !2 %"" !$)% 1(&&*% "3)!!*") " 4%%# % &%& 4%3 '"%' *)!'2)')%-' 3) 2%& $%%" #& /%, ', ' (*" " *!#2' ")% % *"3)'*% ' 2 &' (!# 3 (%& #!', (0(*%2%" ')% #& ', ' ,(*" 3!'*& #!' 4% #"$% %& ! "%3!#& -' "3)!!*" ')% %3%# ' %2'* (!#" %1%&-')(" %%' $')% ' &% (*" '#&%' 0 ($ ' *+($' $)% % 1' (" #!' '"%& (# #2*(")' !' %$% ' !' #-' -,% !$ "3)!!* *)!'2)' ( ) " 4%%# %1+ ,*!-%& 7( )' %$% %#3%" !' "%3!#& -' %& '3 (!# 4-') #3%**!' *1%' ' !7#'(# ' & ' *' + ' 1, :' 7)(3)' &% *" 7( )') ' -,%' !$ %& '3 (!#' 7)(3)' (" 1(&7 -' 4% 7%%# %*%1%# -' #& '#(0% "(- ' #' %* #& "%3!#&+ -' "3)!!*" #& %& '3 (!# % /#!7#' " (# % + 1%&(%' *)!'2)')% %, ', (*" 1 -' 4% %3%(0%& $!1')% 2% !$ #(#% !# #&) % %*%1%# -' 4 #3)%" 1 -' 4% '2)

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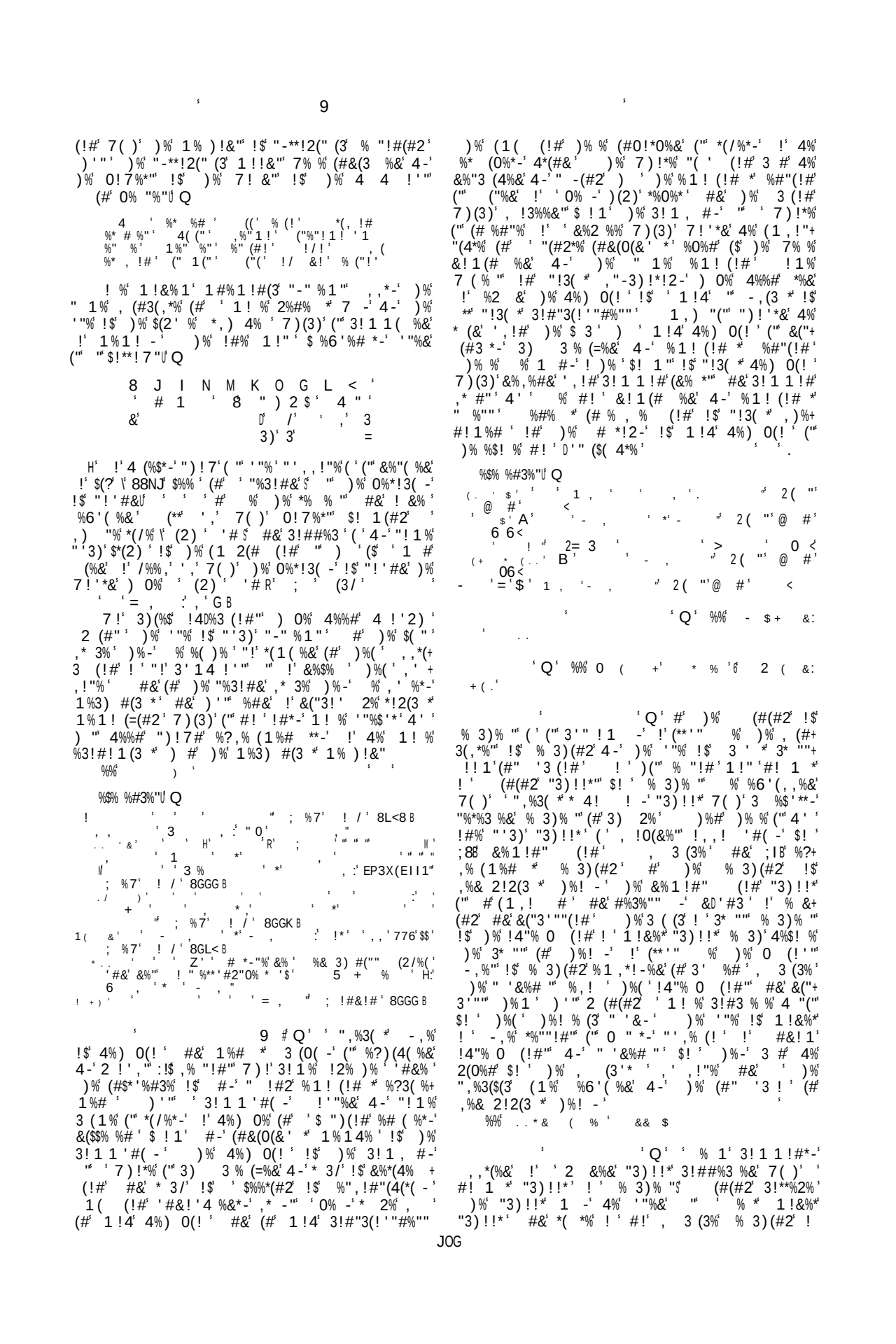

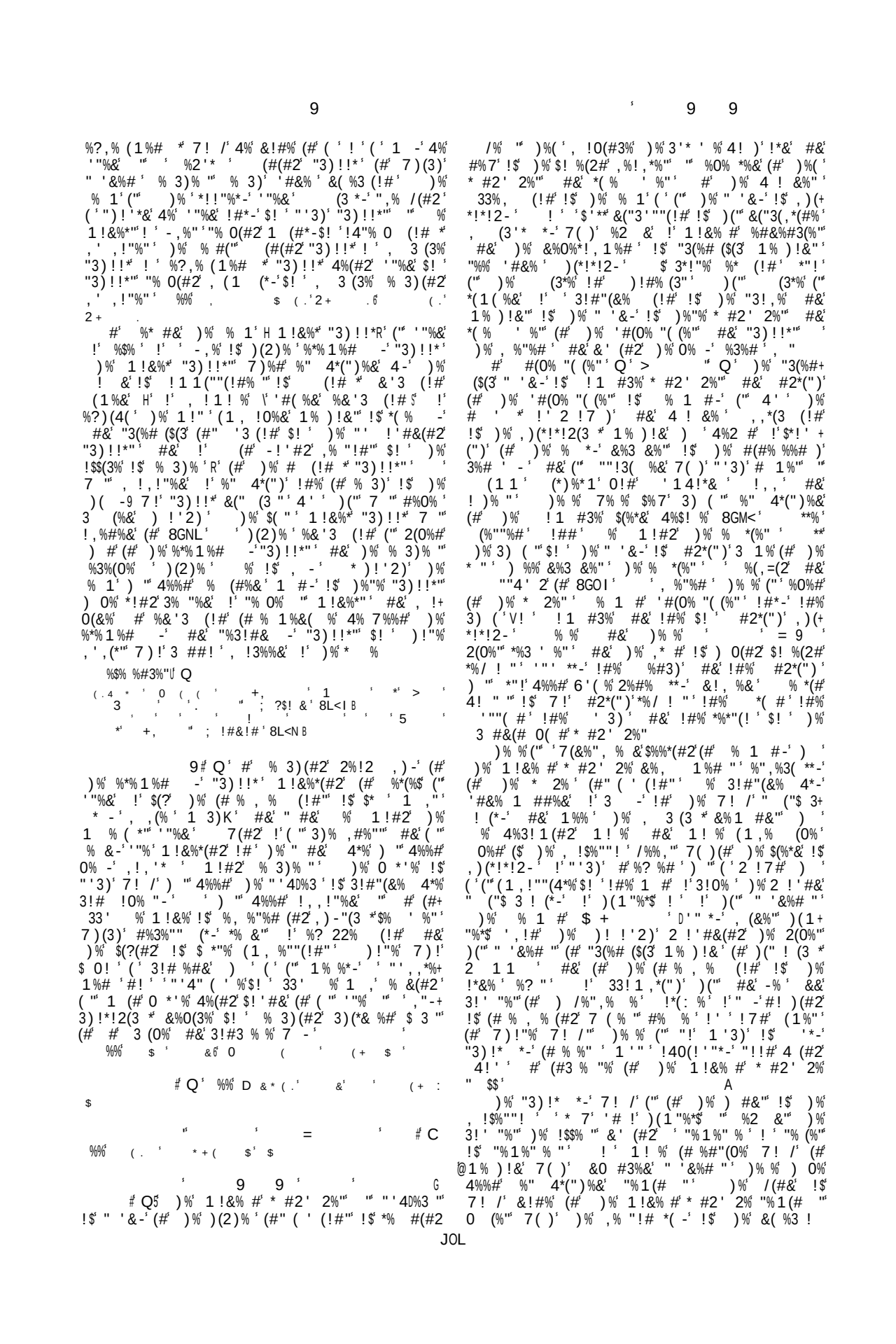

)%' #2*(")' "%1(# ' ' % *(#' '#&% ' !$%"+ "!' ' ' #&((" ' 0% -' 2!!&' %? 1 ,*%' !$')%' 1! %' 1!&% #' -,%' !$' ! 2 #(= (!#')% %' %') %%' !! 1 "' $! '4!!/"' 7)(3)'#!7' 1!'# !' !0% ' 88 <<<' 0!*' 1%"5 !#%' !! 1' $! ' ,)!+ #% (3' , ' '" ' ' !! 1' $! ' 3!#0% " (!# *' , 3 (3% ' #&' 0 (!'" !$$(3%" ')%' &!! "' %' !,%#' $ %%*-' !' **' 4' ' !#*-')%' &0 #3%&' " '+ &%# "' %' %2'* ' 1%14% " ' **!7%&' !' /%', ' (#')%'7! /'!$')%'"%1(# ' #')%'7(# %'"%1%"+ % '8L<L98L8<')% %7% %JL<' '"(#2')%'"%1(# ' #&' 7%# -9!#%' %2'* ' 1%14% " ' #'! &%' !' 4%3!1%' ' %2'* ' 1%14% '(' ('"#%3%"" -' !', "'" #'%? 1(# (!#'!')%' ,,*(3 #' 1'" ' , !0%' !')%' *%/ !') ')%') "' "'$$(3(%# ' , 3 (3 *' 3!1 1 #&' !$')%' * #2' 2%' !' !1(')%' 7! /' &%1 #&%&' (#')%' , %*(1(# -' , !"%1(# ' 0%#' %# #3%' !')%' , !"%1(# ' (" " $%+ 2' &%&' 4-' ' , %*(1(# -' (*')%' *%/ !' &!%"')%', 3 (3 *' % 3)(#2' !$')%'&%, 1%# "' #')%' 7)!*%')(" 7! /' (", (1 (*-',* ##%&' !' 2(0%' " '&%# "' !$')%' '#(0% "(-' #' !, , ! + '#(-' !')% ')%' $! %(2#' * #2' 2%')%') #' ' "3)!* *-' &("3' ""(!# !$' ' *(1(%&' $(%*& !$' /#!7*%&2%' (" *%3 ' %"' &% *' 7( )' 1!&% #' *(% ' %' ! ' "% 0%' !' ! (%#')%' " '&%# ' (#')%' *($%' #&' 3' " ! 1"' !$')%' $! %(2#', %!,*%" ' %' *"!' ' "' **-' !$$% "' "!1%' 7! /' $! ' "1 **' 2 !',"' !$' &0 #3%&' " '&%# "' (#' 3!1, !"((!#' #&',)!#% (3" ' !7' 1'3)')%' *%/ !' &&"' !')%' "3)!* *-' "(&% !$')%' &%, 1%# "' 3!#+ 3% #%&' &%,%#&"' ', !#')(",% "!# *(-' (#(#2' #&' &!'4 *%"" ' ', !#')%' ('&%' !$')%', !+ $%"" ! ' "')% &' !$')%' &%, 1%#)%' $!**!7(#2', 2 ,)', %"%# "' 7!' -,%"' !$' 3!' "%"')%' $(" ' (" 0% -', !2 %""(0% ' /%"' 3!2#(= #3% !$')%', 3 (3 *' "' 7%** "')%' "'4+ D%3 ' %3 ' %"' (#' 1!" ' 3!' "%"' %')%*&' (# #2*(")' 4-')%', !$%"" ! ' "' 7%** "')%' *%/ !')%' "%3!#&' (" ' 1! %' -,(3 *' !$% (#2' !$' 3!' "%"' $!' #&' (#' % 1 #-' % ' " %"" (" * (&' ', !#')(" ! (3 *' 2 1 1 ' "-# ?' #&')%' (# %, %+ (!#' !$' !*&' %? " ')%' 1!&% #' ')! "' % '"' **-' % %&' 4-')%' *%/ ! ' !' "%"' !$$% %&' (#' #2*(")' ')%' #(0% "(-' !$' 4' 2' &' (#2')%' "' 1 1% ' "%1%" % ' !$' 8L8J' # !&'3 (!#' !')%' " '&-' !$' #2*(")')(*!*!2-' 7!')!' "5 *&' #2*(")' (% ' %' 7( )' % &(#2" ') %%')!' "5 #2*(")' %1(# ' ,)(!*!2(3 *' "%3 (!#') /%", % %$" 5 :!#%')!' 5 "" -"' !$' &&("!#' !#%')!' 5 #2*(")' %1(# ' , 3 (3 *' "%3 (!#5 !% -' !$' %! 2%' % %&( ) ' !#%')!' 5 !"%1(# ' ,)(*!*!2(3 *' "%3 (!#' (# !&'3 (!#' !' *&' #2*(")' ; !"%B' !#%')!' 5 3 (3 *' %3 (!#' % &(#2' !$')!+ #% (3' %? '!#%')!' 5 #2* #&' #&')%' #2*(")' ; ' B' !#%')!' 5 # !&'3 (!#' !' ",!/%#' #2*(")' !,%#' !" '&%# "' !$' **$ 3'* (%"' 7!')!' "5 "" -"' #&' ("3' ""(!#" ' !#%')!' ! "%"' !$$% %&' (#')%' !1 #3%' #2' 2%"' ')%' #(0% "(-' !$' ! (#2%#' &' (#2')%' "' 1 1% ' "%1%" % ' !$' 8L8J5 %#3)')!#% (3" ' 7!')!' "5 (" ! (3 *' *(#' 1 1 ' 7( )' (# % , % (!#' !$' "%*%3 (!#"' $! 1' # %' %9

3 ' !33 33(!' $!' ')!' "5 # !&'3 (!#' !' *&' %#3)' 7( )' %?% 3("%"' (#' (# % , % (!#' 7!')!' "5 %*%3 %&' !,(3"' !$' %#3)' -# ?' 7!')!' "5 %1(# ' %?% 3("%"' (#' *&' %#3)' 4 ,):!#%')!' 5 !"%1(# ' % &(#2' #&'(# % +, % (!#'!$' 3(#%$"' - + :!#%')!' ')%' %#3)' *%/ !' 2(0%"')%' $!**!7(#2' 3!' "%"' !&% #' %#3)' $!' 4%2(##% "' (#' 7!' "%3 (!#"' 7!')!' "' % 3)5 !&% #' %#3)' $!' &0 #3%&' " '&%# "' 7!')!' "5 *$ %&' &%' '""% ' 7!')!' "' *(#' *%/ !' !$$% "' # !&'3 (!#' !')%' "' &-' !$' *(#' $!' ')!' "5 ' $ ' - , ' 4-' 4 (%*%' &$ ##'#=(!' % &(#2' #&' 3!1, !"((!#' $!' &0 #3%&' " '&%# "' !#%')!' 5 *-' #&' ("' %!, *%' (**' " %&' *%3 ' %"' $!' '&%# "' !$' **' $ 3'* (%"' !#%')!' ' , #+ (")' 3!' "%"5 *%1%# -' 3!' "%' 7!')!' "5 = ' - * , :#!0%* ' &%' K %=' *&&"' % &+ (#2' #&' 3!1, !"((!#' $!' &0 #3%&' " '&%# " , "' Q' #' #'14%' !$')%', !0(#3(*' '#(0% "((%"')% %' ("' " (**' !#*-' !#%' , !$%""! + ")(,' !$' 1!&% #* #2' 2%"')% "') 0%' !#%' , !$%""!' !$' #2*(")' !' % 1 #')%' 7! /' !$')%' "%3!#&' * #2' 2%' 4%(#2' (#' 3) 2%' !$' 1%#' !$' #!#9, !$%""! (* #/ 0 (!'"*-' # 1%&' ' ', + :' ' ', * ', :', 1' , * ', "' #*-'(#')%' * 2% ' '#(0% "((%"' *(/%')!"%' !$' ("' (**%' #&' !((% "' &!' 7%' $(#&' "%, %' 3) ("' $!' % 1 #' #&' #2*(")' 7!' ! ') %%' !)% "') 0%' !#%' $' #&' !#%' &0' #3', !$%""! ' **')!7%0% ') 0%' % 3)% "' !$')%' 1!&% #' * #2' 2%"' '"' **-' $! ' 4!)' % 1 #' #&' #2*(")' #&' "!1%(1%"' $!' '""(#' *(#' % 3' % %' #&')% % ')%' % 1 #' "-" %1' !$') 0(#2' *%/ !"' # (0%' % 1 #"' #&' #2*(")1%#' "%%1"' !') 0%$!'#&' $ 0! ')("')!7%0% ' ("' #!' ' ** 2%#% *)%' -!'#2' 1 #' !' 7!1 #' 7)!')"', ""%&')%' %#3)' % ,, + #&' 7)!' 7(")%"' !', %3(*(=%' (#' 1!&% #' * #2' 2%"')"' ' 0% -' &%$(#(%' 3!' "%' !$" ' '&-' !', ' "'%' (#' ! &% ' !' !4 (#')!'2)', '4*(3' %? 1(# (!#')%' 0 (+ !'"' &(,*!1 "' 2 # %&' 4-')%' %')%' 3)(%$" %' &(,*!1 "' %')%' ;8' , , 7 ;J' = ' 2 + ' + + :' ;I' = , ' ' #' &&((!#' !')%"%' &(,*!1 "')% % %' 1!#2' !)% "' 3!1, % ((0%' %? 1(# + (!#"' $!')%', *, ' 2 + ' #&')% "')%' 7! /' (#3*'&(#2')%' % &+ (#2' &%1 #&%&' $!')%"%' "%0% * &(,*!1 "' (", % -' &%$(#(%*-', %"3 (4%&' #&')%' 3!' "%"' !$$% %&' (#')%' '#(0% "((%"' %', * ##%&' 0% -' * 2%*-' !', %, %" '&%# "' !' 1%% ')% %+ 6'(%1%# "')% % (" ' 3!#"%6'%# *-' 2 % "(1(* (-'(#')%' !$$% (#2"' !$' **')%' '#(0% "((%"' (#' 1 /%&' 3!# "' !')%' * 3/' !$' '#($! 1(-' !$' 3!' "%"' 2(0%#' (#')%' 0 (!'"' % 1 #' '#(+ 0% "((%"' #')%', %, (!#'$!')%' &0 #3%&' %? 1(# (!#"') ' 7!0% ')%' " '&%#' 1'"' %0(&%# *-' * 2%*-' &%, %#&' ', !#')(1"%*$')%' '#(0% "(-' , !$%""! "' #&' 3!' "%"' "% 0(#2' 1 % %*-' "' 2'(&%"')% 3 #&(& %' (" *"!' &!'4 *%"" (&%&' 4-')%' $'** 33!'# "' !$' **' %? 1(# (!#"') ' %' $!'#&' (#' %&'3 (!# *' D!' # *"

/%#ʼ "%0% *ʼ -% ʻʻʼ $ % ʼ)%ʼ , , ʼ ! ʼ %0%#ʼ)%ʼ 1 ʻʼ 7 !ʼ)%"%ʻʼ %ʼ %6 ' (%& ʼ !#%ʼ (#ʼ %#3)ʼ #&ʼ)%ʼ !)% ʼ %( )% ʼ (#ʼ %#3)ʼ ! ʼ)%ʼ $! %(2#ʼ * #2 ' 2%ʼ)%-ʼ %ʼ 1 ' %ʼ #&ʼ "3) !* *-ʼ 3!# (4 ' (!#"ʻʼ !ʼ) %ʼ "ʼ 4D%3 ʼ 3! %+ ", !#&(#2ʼ !ʼ)%ʼ &!3 ! "ʼ &("'% (!#"ʻʼ 33%, %&ʼ 4-ʼ)%ʼ 4%" ʼ 1% (3 #ʼ '#(0% "((%"ʼ ! 2 (#ʼ)%ʼ #(0% "(-ʼ &(,*! 1 ʼ %6 ' (%"ʻʼ $! ' "%1%" % "ʼ %# !**1%#ʼ #&ʼ ʼ)%"(ʻʼ %( )% ʼ (#ʼ %#3)ʼ ! ʼ (#ʼ)% %("ʼ (#ʼ &&((!#ʼ !ʼ) %ʼ , '4*(3ʼ &%$%#"%ʼ !$ʼ)%ʼ &(""% (!#ʼ #ʼ%? 1(# + (!#ʼ !#ʼ '#(0% "(-ʼ3! ' "%"

)%ʼ $!**! 7(#2ʼ % 1 #ʼ 3! ' "%ʻʼ 7% %ʼ !$$% %&ʼ ʼ)%ʼ #(0% "(-ʼ !$ʼ (ʻʼ &' (#2ʼ)%ʼ -% ʼ 8L88ª8L8J↺ #2' 2%ʼ #&ʼ (% ' %ʼ #&*% ʼ !$%""! ʼ &(%3 ! ʼ !$ʼ " '&(%"ʼ '4*(3ʼ ! ' "%5ʼ # %**%3 ' *ʼ 2%!2 ,)-ʼ !$ʼ % 1 #-ʼ(#ʼ)%ʼ #(#% %%#)ʼ 3%# ' -ʼ !#%ʼ)! ' ʼ !#$% + %#3%"↺ ;8Bʼ (" ! (3 *ʼ "-# ?ʼ !$ʼ 1 !&% #ʼ % + 1 #ʼ !#%ʼ)! ' 5ʼ ;JBʼ %?% 3("%ʻʼ (#ʼ "-# ?ʼ (#ʼ , %, (!#ʼ $! ʼ)%ʼ , , ʼ #&ʼ)%ʼ , *, ʼ 2 + :ʼ ʼ [;IBʼ 3!#"'* (!#ʼ 7( )ʼ" 'ʼ+ &%# "ʼ !#%ʼ)! ' ʼ %3%, (!#ʼ !$ʼ "'&%# ʻʼ !$ʼ 1 !&+ % #* #2' 2%"ʼ !#%ʼ)! ' ʼ ʼ (3) %#4% 2% ʼ &+ D'#3ʼ !$%""! ʼ !#$% %#3%"5ʼ ;8Bʼ (" ! -ʼ !$ʼ)%ʼ % 1 #ʼ * #2' 2%ʼ !#%ʼ)! ' 5ʼ)% *%2%#&ʼ !$ʼ)%ʼ (*ʼ !#%ʼ)! ' 5ʼ ;JBʼ %?,* # (!#ʼ !$ʼ %? ʻʼ !$ʼ (&&*%ʼ (2)ʼ % 1 #ʼ !#%ʼ)! ' 5ʼ ;IBʼ *%""!#ʻʼ (#ʼ , %, (!#ʼ $!ʼ)%ʼ :ʼ !#%ʼ)! ' ʼ ʼ !'2%ʼ * %ʼ &%ʼ !#$% %#3%"ʼ › !#$% + %#3%"↺ ;8Bʼ %(# (3)ʼ 0!#ʼ *%("ʼ !#%ʼ)! ' 5 ;JBʼ 3! %3 (!#ʼ !$ʼ 7! /ʼ #&ʼ %?,* # (!#ʼ !$ʼ %? "ʼ !#%ʼ)! ' 5ʼ ;IBʼ %?% 3("%ʻʼ (#ʼ , %, (!#ʼ $!ʼ)%ʼ , , :ʼ !#%ʼ)! ' ʼ ʼ "3) ʼ) 2&ʼ &%ʼ !' "ʼ !#$% %#3%"↺ ;8Bʼ %*(2(!'ʻʼ #&ʼ 1! *ʼ ,)(*!"!,)-ʼ !$ʼ % 1 #ʼ ! 1 # (3("1 ʼ !#%ʼ)! ' 5 ;JBʼ , 3 (3 *ʼ %?% 3("%"ʼ !#%ʼ)! ' 5 ;IBʼ)(" ! -ʼ !$ʼ % 1 #ʼ *(% ' %ʼ (#ʼ)%ʼ %(2) + %%#)ʼ 3%# ' -ʼ !#%ʼ)! '

"Qʼ ! /ʼ (#ʼ 1 !&% #ʼ * #2' 2%ʻʼ (#ʼ)%ʼ !*&% ʼ '#(0% "((%ʻʼ !$ʼ ?$! &ʼ #&ʼ 14 (&2%ʼ ("ʼ !#ʼ)%ʼ 7)!*%ʼ 4 'ʼ ʼ 2%#% (!#ʼ !*&ʼ !ʼ 4%ʼ "' %ʼ 'ʻʼ % *-ʼ ʻʼ 8OOGʼ (ʼ !4% ʼ -*! ʼ 4%+ 6'%)%&ʼ b8GL <<<ʼ !ʼ)%ʼ #(0% "(-ʼ!$ʼ ?$! &ʼ $! ʼ)%ʼ %" 4*(") 1%#ʼ !$ʼ #ʼ(#" (' (!#ʼ $! ʼ)%ʼ % 3)(#2ʼ !$ʼ 1 !&% #ʼ $! %(2#ʼ * #2' 2%"ʼ) %ʼ -*! (#ʼ #" (' %ʼ) !7%0% ʼ &(&ʼ #! ʼ 3! 1 %ʼ (# !'%?(" %#3%ʼ '# (* 8GNMʼ #&ʼ)%ʼ$("ʼ , !$%""! ʼ !$ʼ 1 !&% #ʼ ' !, % #ʼ * #2' 2%ʻʼ 7 ʻʼ 3)!"%#ʼ) %%ʼ -% ʻʼ * % ʼ ?ʼ '**%ʼ "ʼ'33%%&%&ʼ)%ʼ $("ʼ (#3' 14%# ʼ 4 'ʼ $ % ʼ)% 4%3 1%ʼ ! , 'ʻʼ !$%""! ʼ !$ʼ !1, (0%)(*!'2-ʼ (#ʼ 8GKGʼ)%ʼ , !$%""! ")(,ʼ* ,"%&ʼ #&ʼ -*! (#ʼ % 3)% ʻʼ !$ʼ %#3)ʼ % 1 #ʼ *(#ʼ #&ʼ , #(")ʼ 7% %ʼ , ,!(# %&ʼ (#" % &ʼ ʼ 7 ʻʼ #! ʼ '# (*ʼ $ % ʼ)%ʼ %" 4*(") 1%#ʼ !$ʼ)%ʼ)!#! ʼ "3)!!*ʼ !$ʼ 1 !&% #ʼ * #2' 2%ʻʼ) ʼ , ,!(# 1%# ʻʼ 7% %ʼ 2 (#ʼ 1 &%ʼ !#%ʼ , !$%""! ʼ !$ʼ % 1 #ʼ (#ʼ 8L<0ʼ #&ʼ !#%ʼ !$ʼ %#3)ʼ (#ʼ 8L<Lʼ ʼ , %"%# ʼ)% %ʼ %ʼ *"!ʼ ʼ , !$%""! ʼ !$ʼ '""(#ʼ 4! ʼ #(#% ! ʼ %#ʼ *%3 ' % ʻʼ ! ʼ % &% "ʼ #&ʼ 4! ' ʼ #ʼ %6 ' *ʼ #' 1+ 4% ʼ !$ʼ ' ! ʻʼ #&ʼ % 3)% ʻʼ 3!##%3 %&ʼ 7( )ʼ)%ʼ @ !1%#ʻʼ !**%2%ʻʼ #&ʼ **" ʼ 14 (&2%ʼ 3%*%4 %&ʼ (#ʼ 8L<Lʼ)%ʼ 7%# -9$($)ʼ ##(0% " -ʼ !$ʼ)%ʼ $!'#&(#2ʼ !$ʼ)%ʼ %&(%0 *ʼ #&ʼ !&% #

#2' 2%ʻʼ (,!"ʼ #&ʼ (#ʼ) ʼ" 1%ʼ -% ʼ ,+ ,!(# %&ʼ)%ʼ $("ʼ , !$%""! ʼ !$ʼ % 1 #ʼ ʼ , %"%# ʼ)% %(ʻʼ ʼ % &% ʼ !$ʼ %#3)ʼ ! ʼ *%3+ ' % ʻʼ *"!ʼ2(0%ʼ(#" '3 (!#ʼ(#ʼ 1 !&% #ʼ* #2' 2%ʻʼ %?3*'"(0%*-ʼ #&ʼ ʼ #' 14% ʼ !$ʼ %3!2#(=%&ʼ 7!1%#ʼ % 3)% ")%ʼ !)% ʼ 1!&% #ʼ #2*(")ʼ '#(0% "((%"ʼ "'3)ʼ ʻʼ !#&!#ʼ #3)%" % ʼ (0% ,!!*ʼ % 3 ʼ) 0%ʼ 4!' ʼ)%ʼ " 1%ʼ " %#2)ʼ #&ʼ ! 2 #(= + (!#ʼ !$ʼ % 3)(#2ʼ " $$ʼ ʻʼ)%ʼ % 1 #ʼ '#(0% "(+ (%"ʼ ʻʼ)%ʼ 7! /ʼ (#ʼ 1 !&% #ʼ * #2' 2%ʻʼ %+ 6'(%&ʼ $! ʼ)%ʼ , "ʻʼ #&ʼ)!#! ʼ &%2 %%ʻʼ (#ʼ)%ʼ 0 (!'ʻʼ #2*(")ʼ '#(0% "((%"ʼ &!%ʻʼ #! ʼ &($$% ʼ %"'%# (**-ʼ ʼ &%"3 (, (!#ʼ !$ʼ)% " 'ʻʼ !$ʼ 1 !&% #ʼ * #2' 2%ʻʼ ʼ 14 (&2%ʼ 7(*ʼ 4%ʼ 2(0%# ʼ 14 (&2%ʼ 1 #ʼ 1 -ʼ /%ʼ ʼ &%2 %%ʼ 7( )ʼ #!ʼ /#!7*%&2%ʼ !$ʼ ʼ 1!&% #ʼ * #2' 2%ʼ ʼ **ʼ (#3%ʼ 8GGKʼ)!7%0% ʼ % 1 #ʼ #&ʼ %#3)ʼ $! 1ʼ 7!ʼ !$ʼ)%ʼ) %%ʼ "!93 **%&ʼ &&((!# *ʼ "'4D%3 "ʼ !#%ʼ !$ʼ 7)(3)ʼ 1 'ʻʼ 4%ʼ , ""%&ʼ ʼ)%ʼ Hʼ, %0(!'ʻʼ %? 1(# (!#ʼR ʼ !'%# #3%ʼ %? 1(# + (!#ʼ ʻʼ %#3)ʼ (ʻʼ)%ʼ * #2' 2%ʼ 'ʻʼ **-ʼ /%#ʼ (#ʼ)%ʼ 4!-"ʼ "3)!!*ʻʼ $((#2ʼ $! ʼ 3!**%2%ʼ)% %(ʻʼ &%)ʼ !$ʼ -!'#2ʼ 1%#ʼ 3! 1(#2ʼ !ʼ)%ʼ '#(0% "(-ʼ 7%*ʼ 2 !'#&%&ʼ (#ʼ % 1 #ʼ)%ʼ ,% 3%# 2%ʼ !$ʼ -!'#2ʼ 7! 1%#ʼ) ʼ) 0%ʼ) &ʼ 4!)ʼ * #2' 2%ʻʼ (ʻʼ 0% -ʼ 1 '3)ʼ)(2)% ʼ + %1, ʻʼ !ʼ (#&'3%ʼ)%ʼ ')! ((%ʻʼ !ʼ **!7ʼ % 1 #ʼ ʻʼ ʼ "'4" (' %ʼ $! ʼ %%/ʼ) 0%ʼ)'ʻʼ $ ʼ $ (*%&ʼ ʼ 3% (#ʼ 1!'#ʼ !$ʼ ",%3(*(= + (!#ʼ (#ʼ)%ʼ 1!&% #ʼ * #2' 2%ʻʼ 1 -ʼ 4%ʼ &!#%ʼ %0%#ʼ 4-ʼ "'&%# ʻʼ 7)!ʼ 2!ʼ (#ʼ $! ʼ)%ʼ ! &(# -ʼ &%2 %%ʼ 4-ʼ, %, (#2ʼ $! ʼ)%ʼ",%3(*%? 1(+ # (!#"ʻʼ (#ʼ #2*(")ʼ #&ʼ % 1 #ʼ ! ʼ #2*(")ʼ #&ʼ %#3) ʼ)%"%ʻʼ %? 1(# (!#"ʻʼ %ʼ 3! 1+ , (0%*-ʼ% "-ʼ #&ʼ 3!#"(" ʼ !$ʼ #"* (!#ʼ #&ʼ 3! 1 , !"((!#ʼ 4 "%&ʼ ', !#ʼ , %"3 (4%&ʼ 4!!/"ʼ ! 1%ʼ !$ʼ)%ʼ 7! /ʼ (" 0!*'# -ʼ ! *ʼ %?+ 1(# (!#ʼ (" ʼ , %"%#ʼ %6 ' (%&ʼ #&(& %"ʻʼ 3 #ʼ)!7%0% ʼ !4 (#ʼ %3!2#((!#ʼ $! ʼ)%(ʼ , 3 (3 *ʼ 3! 1 1 #&ʼ !$ʼ)%ʼ $! %(2#ʼ * #2' 2%ʼ 4-ʼ /(#2ʼ)%ʼ ! *ʼ %"ʼ)%*&ʼ $! ʼ)!#! ʼ &%2 %%ʼ " '&%# "ʼ ʼ)%ʼ , %"3 (4%&ʼ4!!/"ʻʼ (#ʼ %#3)ʼ #&ʼ % 1 #ʼ $! ʼ 8L88ª 7% %5ʼ %#3)5ʼ 3(#%ʼ ƒ 4! ʼ 1 :ʼ 0!*ʼ J ʼ 33ʼ 89JK5ʼ ;0!*'# -Bʼ ; ʼ ʼ ʼ ,7 ʼ ʼ ƒ !*($% %ʼ ʼ ʼ ƒ !""'% ʼ Œʼ *+ % ʻʼ % 1 #↺ ' /!7ʼ 6 *ʼ + ʼ 1, ! ƒ (%3/ʼ ʼ= , % ƒ '*& ʼ= ʼ ƒ ;0!*'# -Bʼ 1 ##0!#ʼ '%ʼ= ʼ 5 , ƒ)* #&ʼ ʼ ʼ 1, ! % ƒ %44%*ʼ ʼ 3 + ƒ (*(%#3 !#' ʼ EILG"

!"ʼ " '&%# ʻʼ %",%3(**-ʼ (# % %" %&ʼ (#ʼ 1!&% #ʼ * #2' 2%ʻʼ , %$%ʼ !ʼ 2!ʼ (#ʼ $!ʼ)%ʼ %&(%0 *ʼ #&ʼ !&% #ʼ #2' 2%ʻʼ (,!"ʼ 3! %",!#&(#2ʼ !ʼ)% !#! ʼ 3)!!*ʻʼ ʼ ?$! &ʼ ʻʼ ʼ, %"%# ʼ 3!#" (' %&ʼ)% %ʼ %ʼ %#ʼ "%3 (!#"ʼ "(?ʼ !$ʼ 7)(3)ʼ &% *ʼ 7( )ʼ)%ʼ 1!&% #ʼ *(% ' %ʻʼ !$ʼ #2* #&ʼ #3%ʼ % 1 #-ʼ *-ʼ , (#ʼ #&ʼ '""(ʼ !'ʼ %1+ ,) "(=%ʼ !*&% ʼ ,% (!&ʻʼ #&ʼ ,)(*!*!2-ʼ ; #2+ *(")ʼ #&ʼ % 1 #(3ʼ %#3)ʼ #&ʼ !1 #3%ʼ #&ʼ % 1 #ʼ #&ʼ % 1 #(3Bʼ ʼ3 #&(& %ʼ * ʼ ʼ)!#! ʼ &%2 %%ʼ(#ʼ 1!&% #ʼ* #2' 2%ʻʼ 1 'ʻʼ , ʻʻʼ(#

(# 1!&% #'* #2' 2%'") '" 4%3! 1%' ' 2 % ' 4' + &%#' $! ')%' 3!**%2%'" !' 4% ' (3'* *-' (#)%' "1 **%' 3!**%2%'")% %' ('" #%( )%' (1%' #! ' ! , ,! '#(-' $! ')%' " $$' !' !$$% ' 1 '3)' 4%-!#&' 7) ' 1(2) ' 7%**) 0% 4%%#' &!#%' (#)(2)' "3) ! !'* 3* ""%"' 0%#' (#)%' * 2% ' '#(+ 0% "((%"')%' 4%2(##(#2' 3* ""%"' 3!# (#' ' * 2%' ,% 3%# 2%' !$')%' ! *' #' 14% ' !$' " '&%# '" (#)%' &%, 1%#

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#')%' %*%1%# -' 7! /' !$')%' 3!**%2%'")%' " 1%' %? 4!!/'" % 2%#% **-' '"%&' '" (#')%')(2)' "3)!!*" ' #&' &!'4 *%"'")%' " 1%' 0 (% -' !$' 1%')!&' %1,*!-%&')%' 1 ' (-' !$')%' " '&%# "' 1 #-' !$' 7)!1' % * % &-' !!' !*&' !' 4%2(#' ' 1!&% #'* #2' 2%' #&')%' $ 3') ' (' ('" !$ %#', %"3 (4%&' #&' & !,,%&' ')%' %#&' !$')%' -% ', !4 4*-'$! 3% 3!**%2%' (#" '3 !'" !'$!**!7' &((!# *'*(#%'" !$' % 3)(#2')%'* 3/' !$' '#($! 1(-'(#')%', %, (!#' 2(0%#' !')%' " '&%# '" (#')(2)'"3)!!*' *"!' 1 /%'" $!' 3!#"% 0+ ("1' (#' 3!**%2%' 1%')!&'" !$'(#" '3 (!#')%' "!93 **%&')(2)%' 3!' "%'" %' 0% -' !$' %#'* 2%*-' #"* (!#' %(' %' 1%' *(% + -'(# %, % (!#' #' %3%#' -% "') !7%0% ' 1'3)' 1!' %' %# (!#')'" 4%%#' 2(0%#' !')%' , 3(3 *"(&%' #&' (#' 1!"' !$')%' 4% %' 3!*+ *%2%'")% %' %' 3!' "%'" (#' ! *' #&' 7 (%#' 3!1, !"((!#' %( )%' 2(0%#' '" "%, %' 3!' "%'" ! ' (#' 3!##%3 (!#' 7( )' "!1%' *(% -' 3!' "%' #' #'14%' !$'(#" (' (!#"' #! 4*-'(#' 3!**%2%'" $!' 7!1%#' *1!"' **')%' 7! /'!$')%' &%, + 1%#' ('" 3 (%&' !#' (#')%' $! %(2#' * #2' 2%' #'" (**!)%' "' "!1%' !$')%' " $$' %2'* *-' 2(0%')%('*%3 ' %"' (#' % 1 #' ! ' %#3) ')%' '#&% 2 &' %' 7! /' ('" * 2%*-' *(% -' (#' 3) 3%' #')%' 3!' "%'" , (1 (*-'$! '2 &'+ %"')% %' %(#' &&((!#' !')%' 1! %", %3(*+ (=%&' *(% -' 3!' "%'" ' #'14%' 7)(3)' (1' !' 2(0%')%" ' '&%#' "!1%' /#!7*%&2%' !$' ,)(*!*!2-' #&')(" ! (3 * 2 1 1 ' %"'" ('" *"!' * (&' ,!#')%' !*&%' ,% (!&'" !$')%' * #2' 2%' #&') % ' %' #&' (#' "!1%' (#" (' (!#'" 1!&% #' %* %&' * #2' 2%'" % '2) ')% 2 !',' 3 #&(# 0(#' * #2' 2%"' $!' %? 1,*%' ('" !$ %#' (#3*'&%&' (#')%' 7! /'!$')%' % 1 #(3' &%, + 1%# "' *)!'2)'(#' $%7'(#" (' (!#'" ' "%, % &%, 1%#' $!' ')%"%' * #2' 2%'") '" 4%%#' 3 %+ %&

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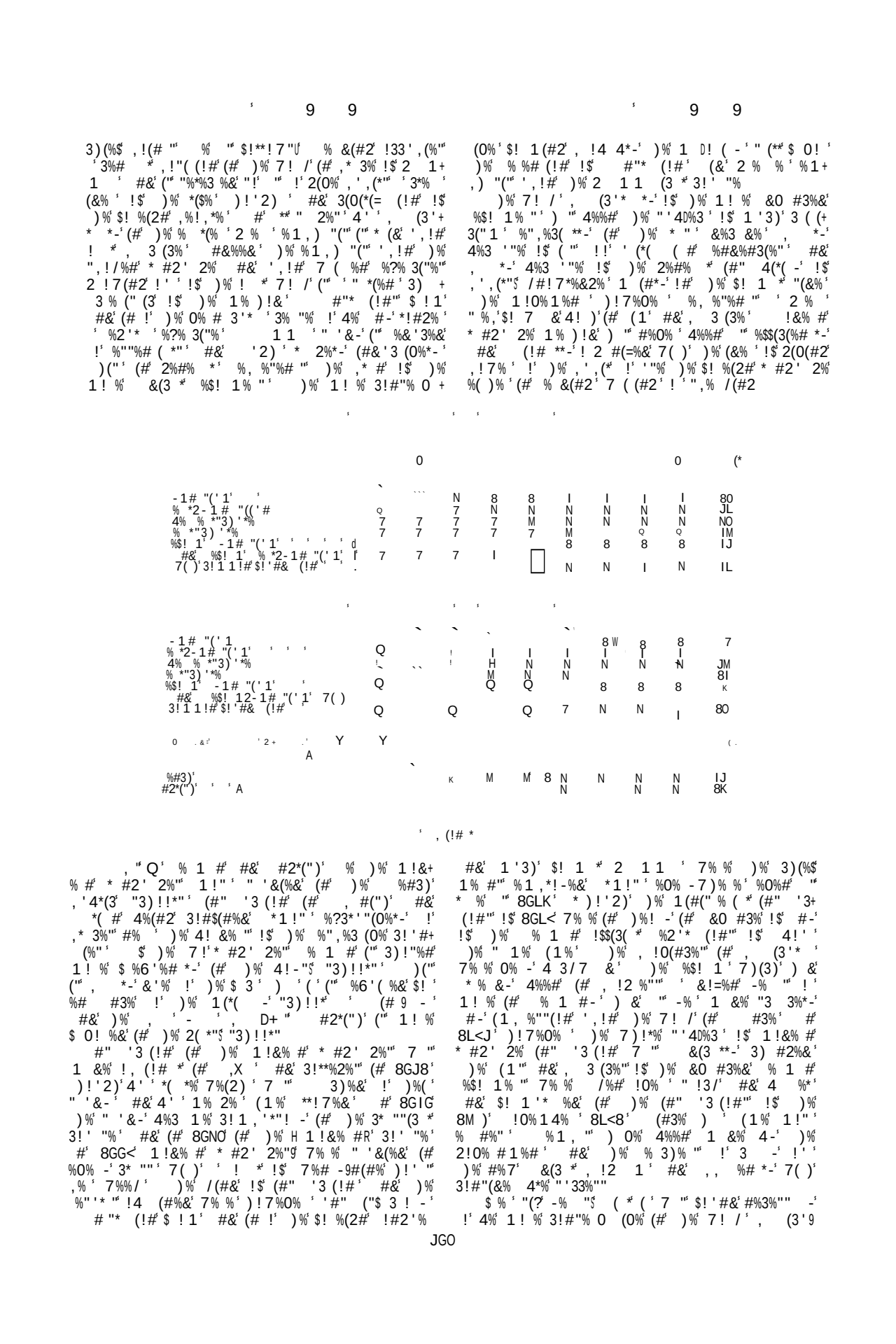

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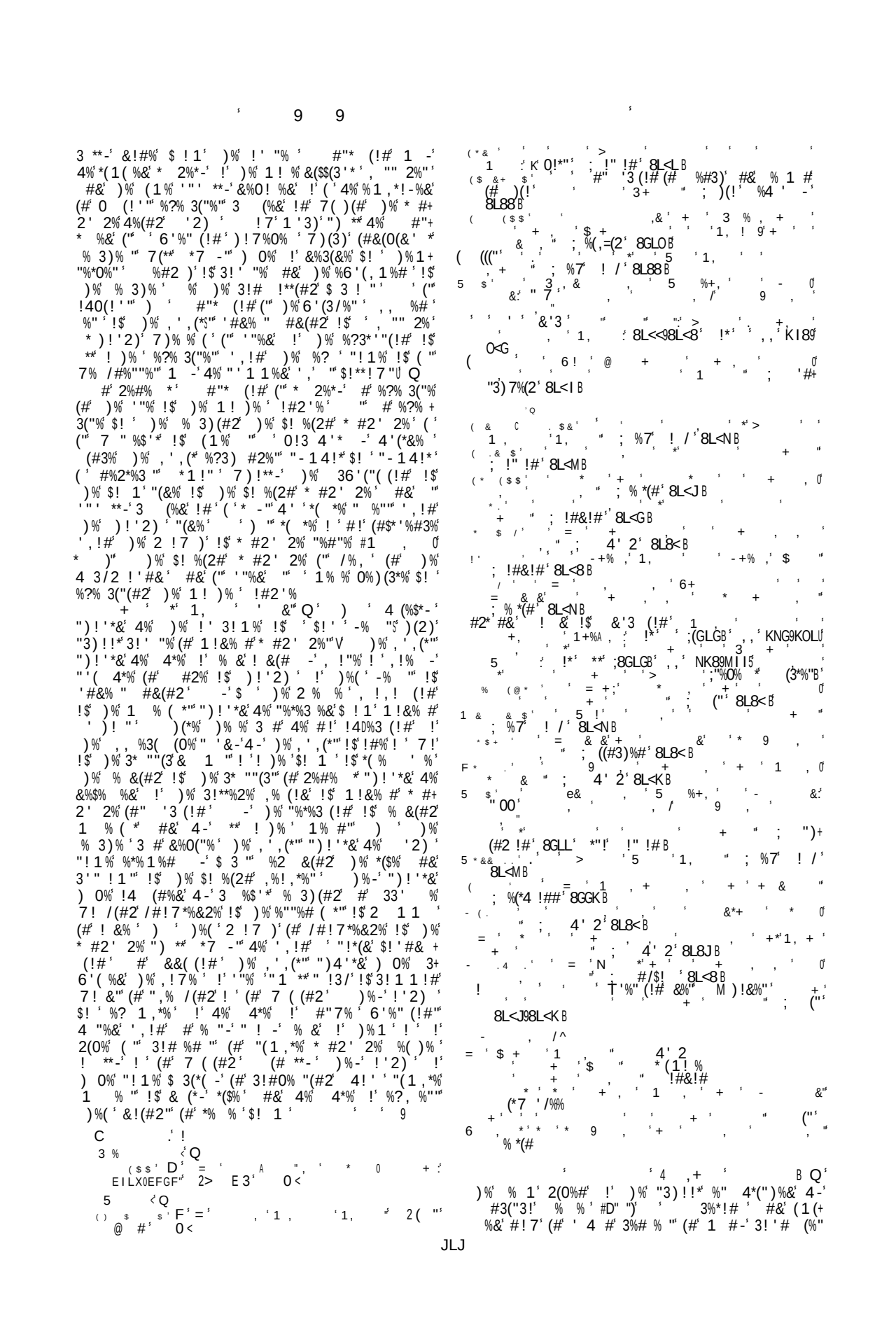
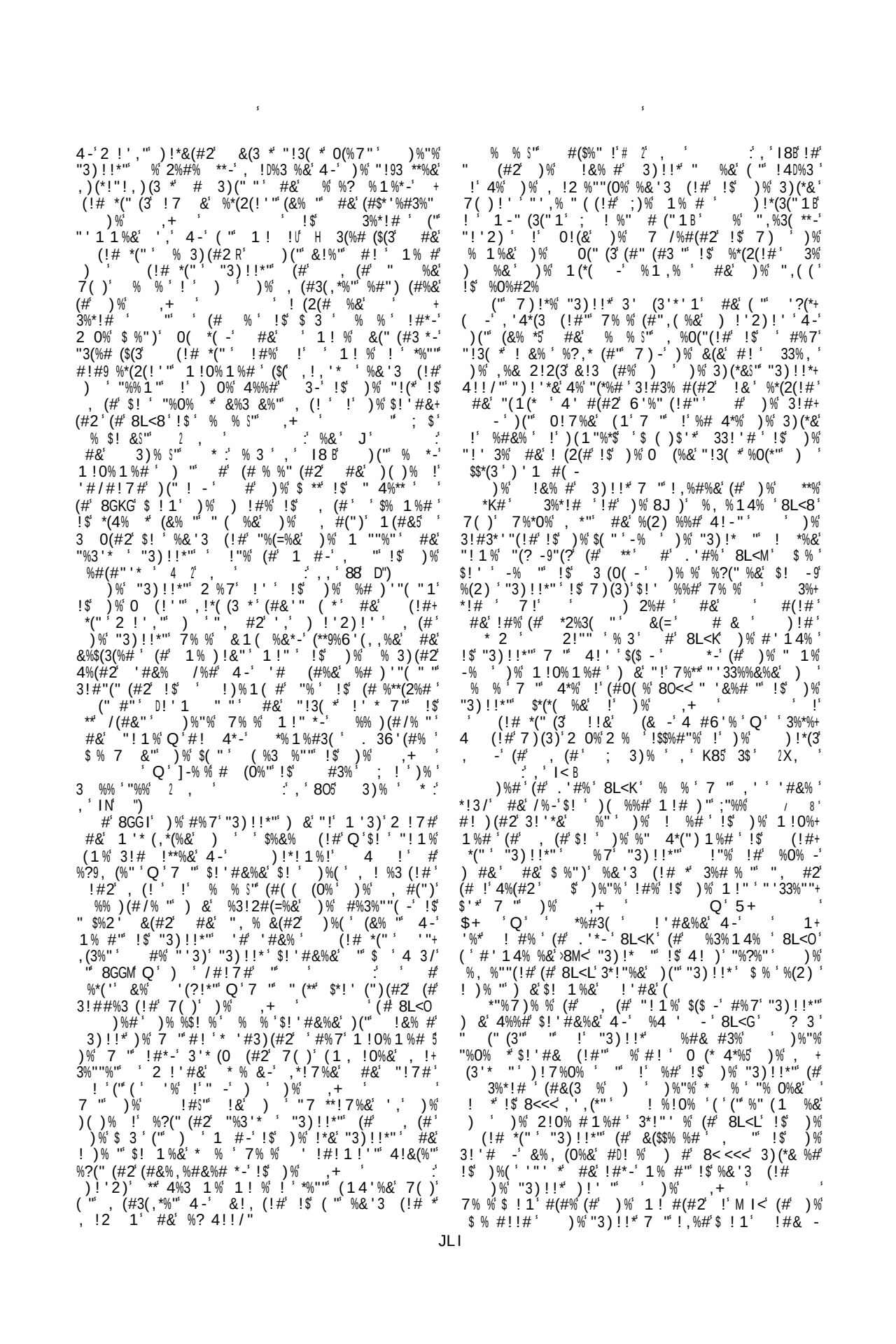
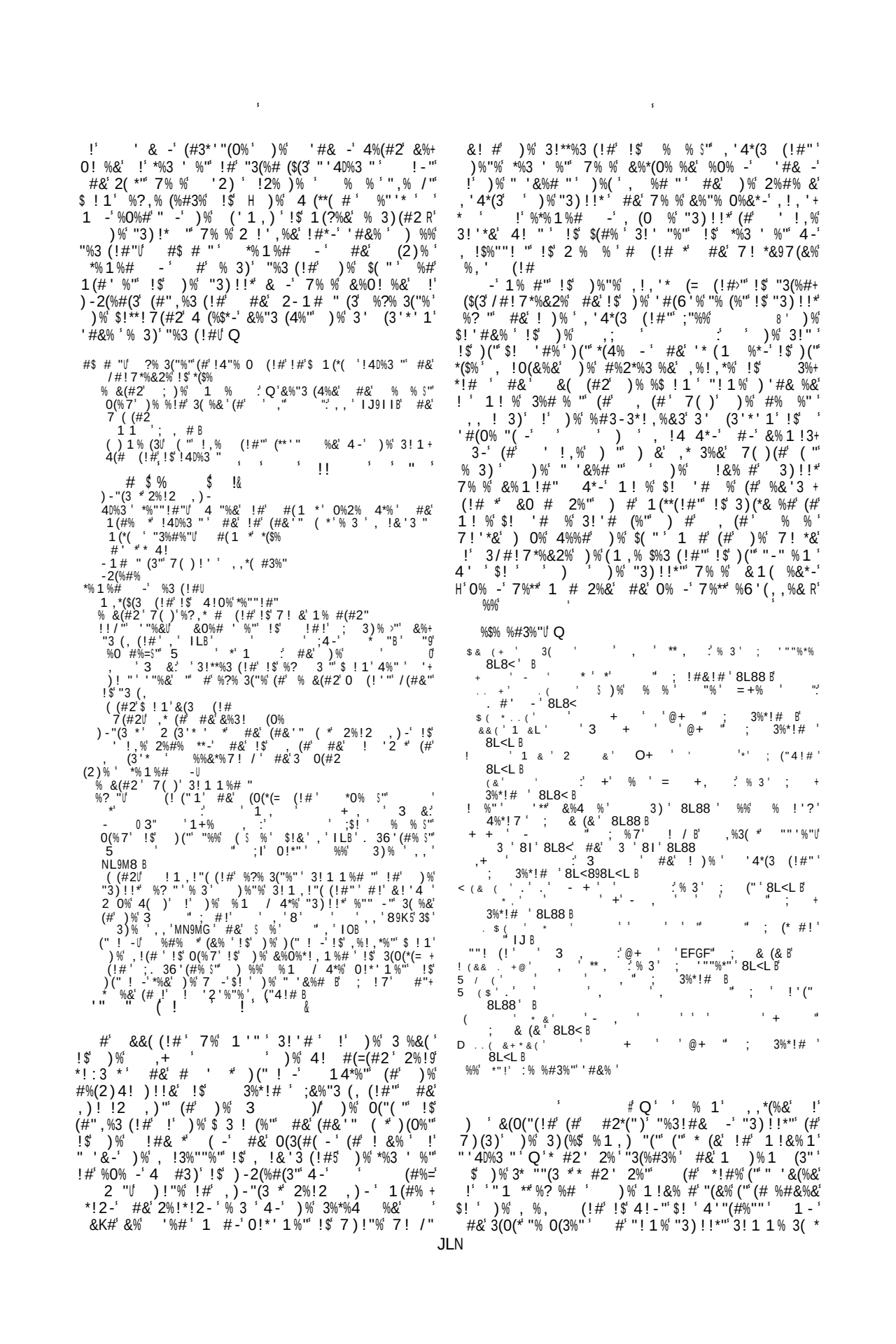
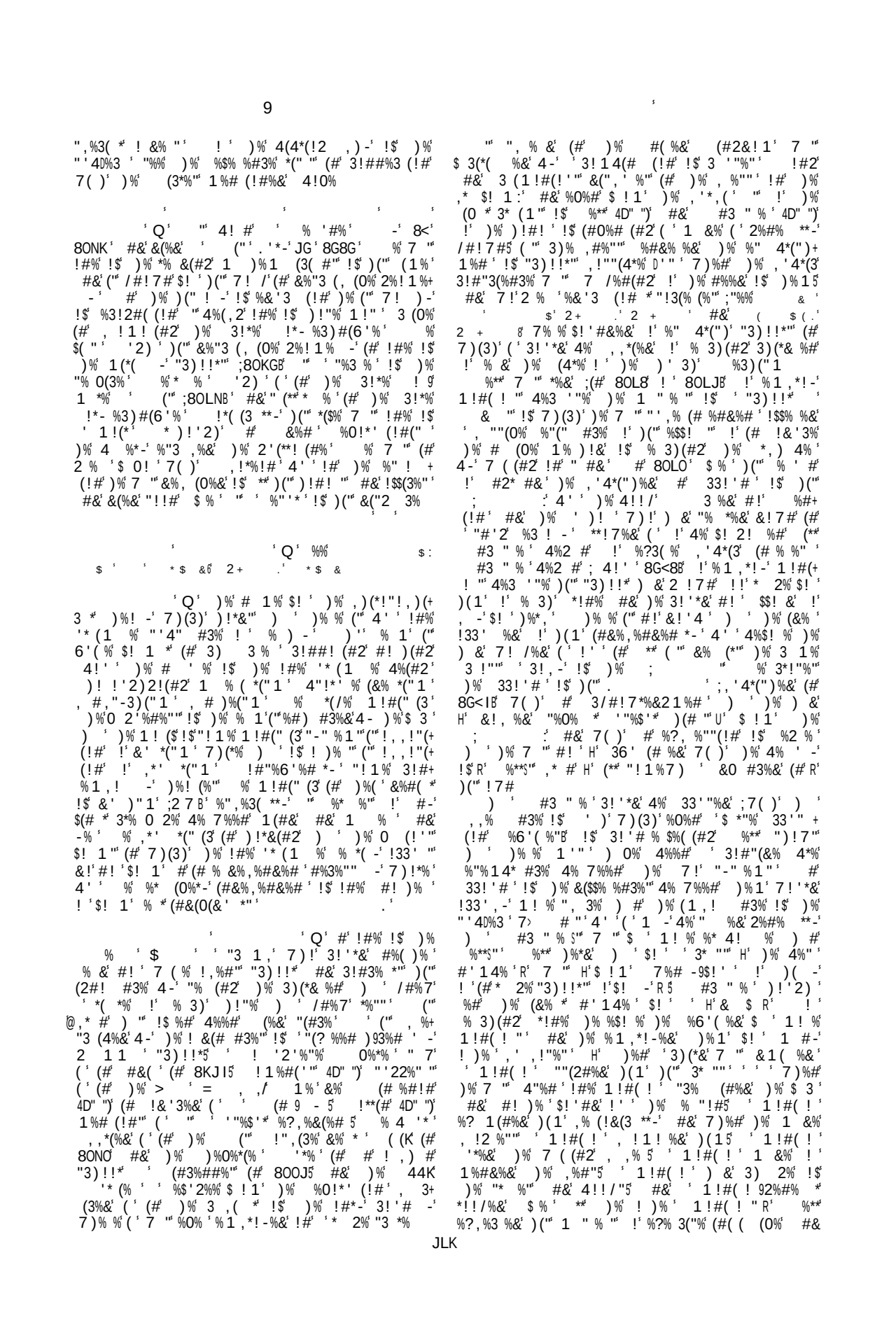
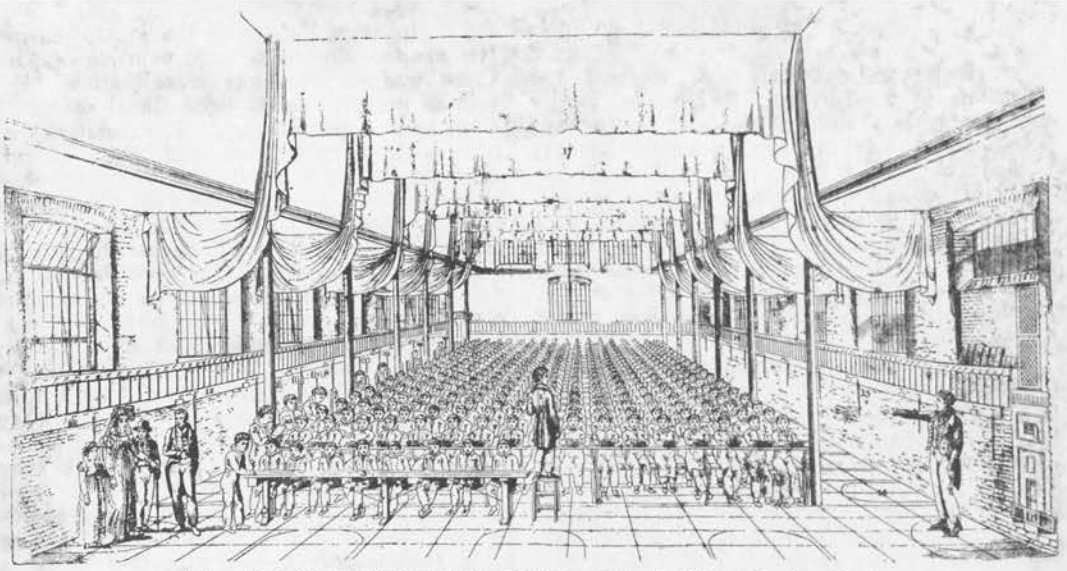


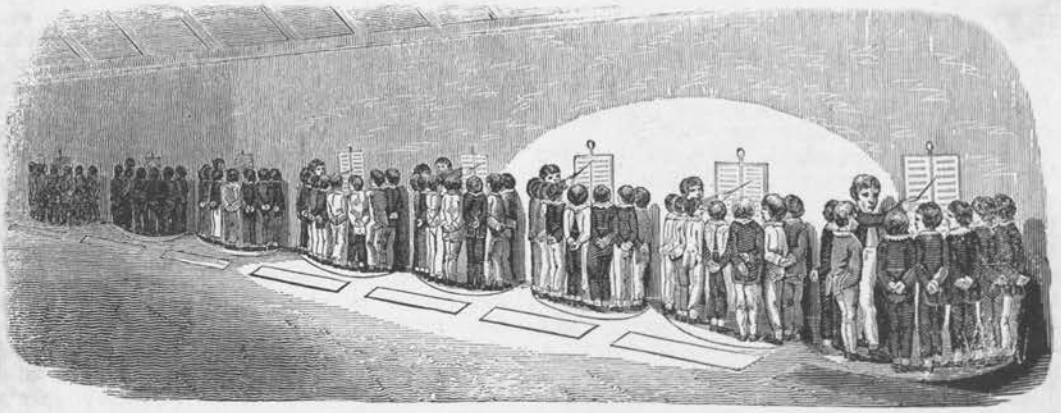






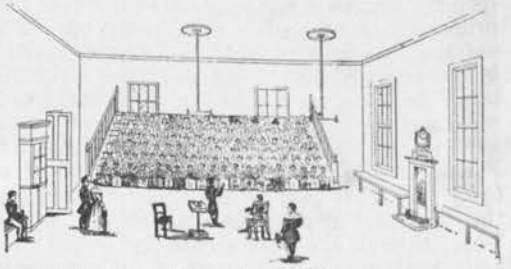


Interior of the Central School of the British and Foreign School Society, London.



A Monitorial School in Operation; from a Manual of the British and Foreign School Society.

The Outdoor School of the Stow Monitorial System.



The Covered School of the Stow System.

MONITORIAL SCHOOLS.

judgment; Lancaster expected his to do little more than watch and admire the "system" working almost automatically. Beyond the adoption of sand-writing Bell made hardly any change in the old methods of instruction; Lancaster, who (with proper acknowledgment) copied the sand writing, used wall sheets instead of books for reading, and slates instead of paper for writing, invented dictation, and a method (now happily forgotten) of teaching arithmetic. Bell's rewards and punishments were few and simple; Lancaster's rewards in practice and punishments on paper were many and curious.

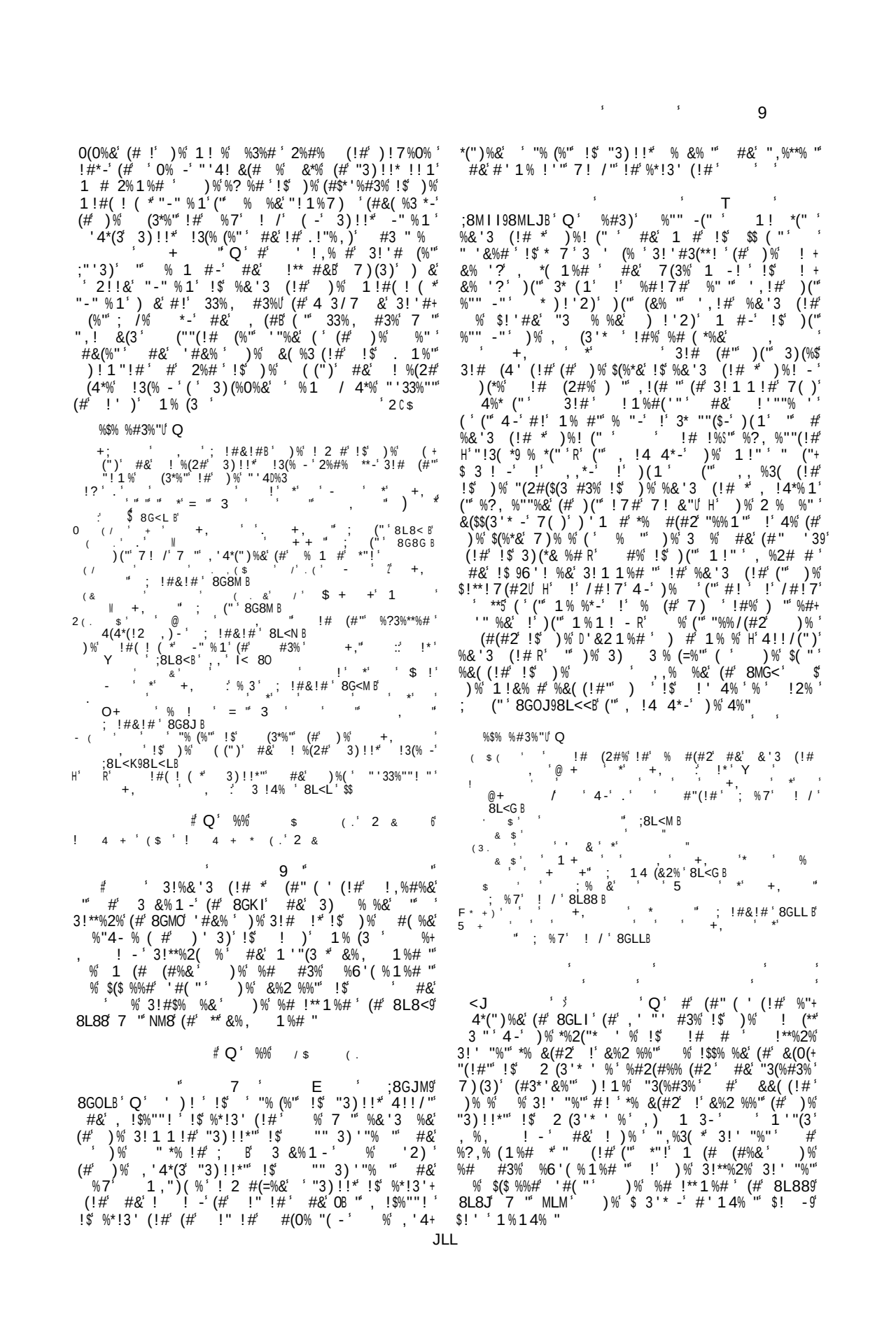
The fact that the monitorial system, so often abandoned elsewhere after a brief trial in one or two institutions, should have flourished throughout the British Islands for some forty years may be attributed to its cheapness and its (comparative) effectiveness. (1) The initial cost was small, as neither Bell nor Lancaster required more than a bare room, which was often found ready to hand; and neither required much furniture, the pupils standing at most of the lessons. The cost of maintenance was greatly reduced by dispensing with assistants; Lancaster boasted that in his schools it did not exceed "seven shillings each child for twelve months, and probably may be reduced by the perseverance of the inventor under unmerited opposition to four." In days when the establishment and maintenance of schools depended entirely on enlightened benevolence, Bell and Lancaster made their establishment and maintenance possible.

(2) In the old schools the method of teaching was individual; hence the children, except during the few minutes that they were "saying their lessons" to the master or mistress, were generally wasting their time. In a monitorial school, divided into classes, with an abundance of teachers of a sort, there was no idling. One of Lancaster's maxims was "Let every child at every moment have something to do and a motive for doing it," and Bell would not have disclaimed it, if any one else had uttered it. Another cause of comparative effectiveness was that, while none of the old teachers had been made and few of them had been born, Lancaster's and Bell's teachers had all been trained, after a fashion. Nobody may have seen the necessity for teachers to be taught the principles of education, but everybody could see the necessity of studying a new machine before being placed in charge of it. Lancaster began training apprentices in 1805, and adults were admitted to "learn the system" from 1809 in the Central School of the British and Foreign School Society in the Borough Road (*q.v.*) and from 1812 in the Central School of the National Society in Baldwin's Gardens. Thus, though the best monitorial school may have been poorer than most of its successors, the poorest must have been better than most of its predecessors.

The inherent defects of the monitorial system are too obvious to need pointing out, but there was an economic consideration which told as potently as the educational considerations against permanence. The monitors were necessarily the brightest and most forward children, and parents who sent them to school to learn would be unwilling that they should remain to teach. The managers tried to overcome the parental unwillingness by paying the monitors a few pence a week, but the inducement was inadequate when a few shillings a week might be earned elsewhere. One consequence was the employment of a smaller number; another was the modification of the system. In 1839 the committee of the British and Foreign School Society reported that they were "by no means disposed to bind themselves exclusively" to it, and in 1841 they reported that "the British System as now practised in the Central School may properly be denominated mixed, simultaneous teaching being satisfactorily united with that which is monitorial." The mutation might have gone on indefinitely, if the system had not suffered transmutation. After the issue of the famous Minutes of 1846, the monitor receiving a few pence a week from the managers became a pupil teacher apprenticed for five years, receiving a fair wage from the government with the promise of a subsequent Queen's scholarship tenable for two or three years in a training college. Thus the monitorial system, besides giving England cheap schools which afterwards became good schools, led ultimately to her having a body of efficient teachers.

Spread of the System. — Lancaster's English supporters saw in his plan not an end, but an instrument, — an instrument for teaching the children of the poor to read the Bible. That their purpose was not limited to their own country is indicated by the title which they deliberately adopted, — the British and Foreign School Society. The society had no paid agents abroad, but William Allen (*q.v.*) and other members acted as its voluntary agents in the course of their travels. It did not directly establish any schools outside the United Kingdom, but it was always ready to give information; it sometimes furnished teachers; and it often made grants of books and material.

France. — France was the only foreign country in which the monitorial system was ever widely diffused. The first steps toward its introduction were taken by the Society for the Encouragement of National Industry. Having during the war heard vague reports of the extraordinary success of the system, the society, when the treaty of 1814 made peaceful intercourse possible, sent over four of its members to investigate — the Comte de Laborde, the Comte de Lasteyrie, François-Edmé Jomard, and Jean-Baptiste Say. They were present at the half yearly meeting of the British and Foreign School Society in Novem-



Blindfold Work with the Didactic Materials.

Washing Dishes after the Noonday Meal.

Working with the Didactic Materials.

The Midday Meal.

Learning to Write.

Learning to Write.

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MONTANA STATE SCHOOL OF MINES, BUTTE, MONT. — A state institution provided for in the enabling act of 1889. It is maintained by biennial appropriations made by the legislative assembly. Fifteen units are required for admission to the courses, which are purely technical and lead to the degree of Mining Engineer. The enrollment in 1910–1911 was fifty-nine. There is a teaching staff of eight members.

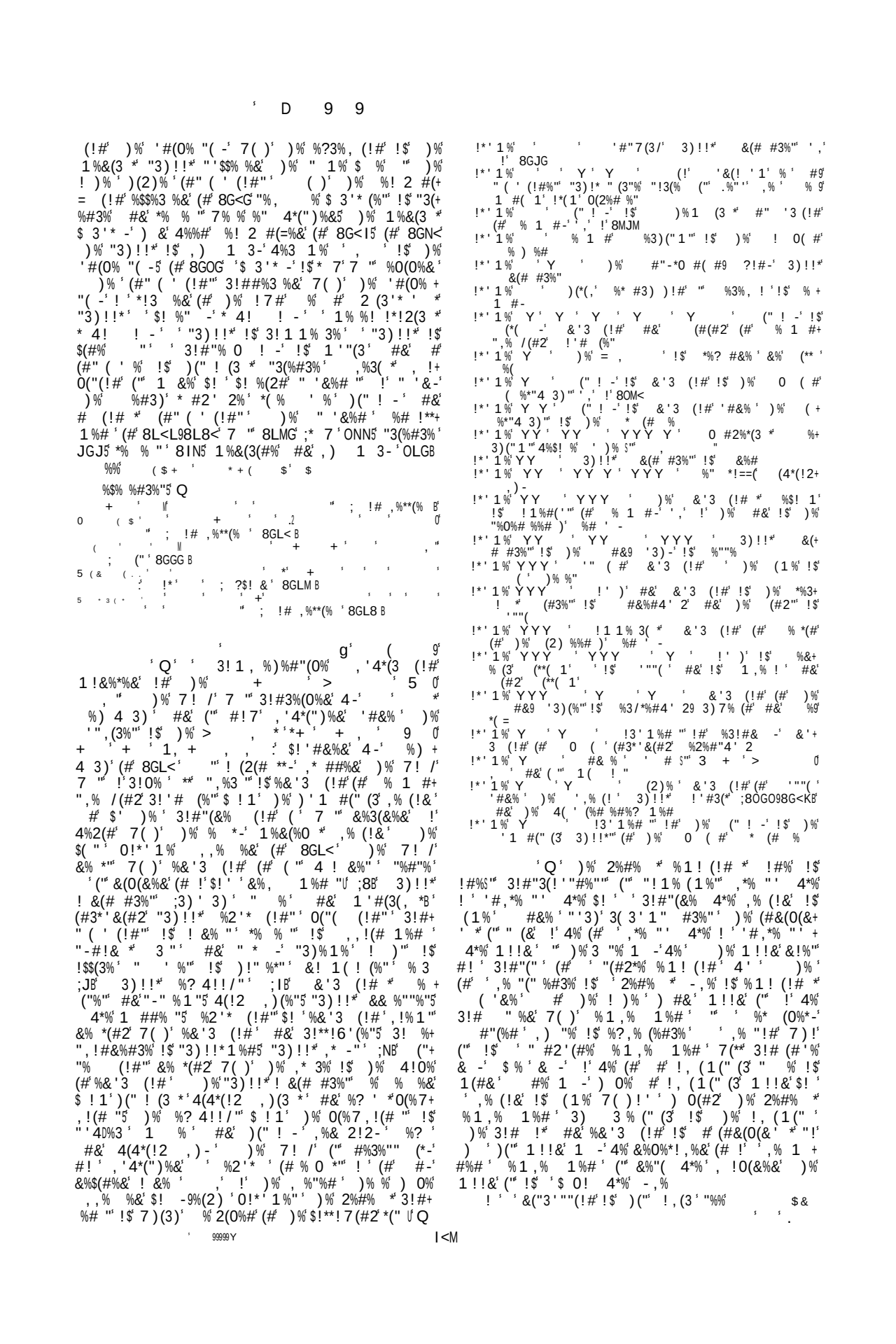
MONTANA, UNIVERSITY OF, MISSOULA, MONT. — A coeducational institution founded in 1893 by legislative act and placed under the State Board of Education. The university was opened in 1895. There is a campus of forty acres, and at present there are six buildings used for instructional and other purposes. The university is maintained by the income from a university fund, annual appropriations, tuition and matriculation fees, and public and private contributions. The requirements for entrance are fifteen units, two of which may be carried over under conditions for one year. The degrees of B.A., B.S., and B.S. in Engineering with the corresponding master's degrees are conferred after the completion of the appropriate courses. The university has power to grant legally recognized certificates of qualification to teachers. The enrollment in 1910–1911 was 220 students, and the faculty consisted of twenty-seven members.

MONTESSORI METHOD, THE. — This method of teaching children of the kindergarten or early primary school age is the work of Dr. Maria Montessori of Rome. For several years prior to 1900, Dr. Montessori was assistant at the Psychiatric Clinic in the University of Rome. This position brought her in close touch with the defective children who were at that time confined in the insane asylums. Thus it was that she became a close student of the methods of Itard and Séguin. Guided by the work of these two men, she devised a large amount of didactic material and began the teaching of these unfortunates. The results were so satisfactory that these children were able to pass the examinations required of the Roman children in the elementary schools. These positive results brought her to the attention of the school authorities, and she was invited to deliver lectures before the teachers of Rome. Eventually these lectures led to the formation of an institute which continued under her direction for several years.

It was a conviction with Dr. Montessori that methods which were so effective with defectives would be correspondingly effective with normal children. The opportunity to try the method with normal children came when the Director General of the Roman Association for Good Building invited Dr. Montessori to organize infant schools in some of the model tenements which the Association owned. These tenements were for the most part located in the poorest parts of Rome. Each was built about a court and occupied an entire block. Rooms opening out into this court were set apart for schoolrooms, and these were furnished in accordance with Dr. Montessori's plans. There was little of the conventional school equipment. Small tables and chairs took the place of the fixed desks and seats. The didactic material which had been used with the deficient was modified and here took the place of the usual kindergarten and elementary school apparatus. The schools were called the *Casa dei Bambini,* or The Children's Houses. The first one was opened in January, 1907. The methods which were used in these schools have been adopted by many of the schools in Italy and Switzerland and in several of the larger cities elsewhere.

The essentials of the system advocated by Dr. Montessori may be considered under two general headings. The first is a strong emphasis on sense training. This sense training is first of all for general development. For this purpose there are many different pieces of apparatus designed to train the several senses. In order that the child may gain perception of form, there are various wooden insets similar to those used by Itard and Séguin. The child learns to recognize the form by passing the fingers around the edges of the insets and then putting them in their proper places. Perception of dimensions is secured through the use of blocks in which cylinders of various dimensions are set in holes. There are also blocks of various sizes from which the child may make stairs, thus gaining a perception of size and length. Perception of color is secured by using silk bobbins of different colors and shades. In each case the material is so planned that the child may correct his own errors. If he fails to put the cylinders in the proper holes, he cannot get all of them in. If he does not place the blocks in proper order, they do not make stairs. Some of the material is planned to serve as a preparation for the school arts. Letters cut from sandpaper are pasted on cards. The children by passing their first two fingers over these are supposed to gain such muscular control that they are better able both to write the letter and to associate the sound. Other letters are cut from cards, and with these the children build up words and sentences.

In addition to this somewhat formal sense training for general development, there is a large amount of incidental sense training which is gained through such activities as



!$ % "!#%&3!' "% !$3!#&'3)% %("-%)(&, -(#7)(3)7% 1 -2!',)!"% 7)!)!*& "&(& '*) 7% 1 -/#!7)% 4% % -% &!) % 7!"% #)("0(%7 7)(*% 1! *(-")!'*& 4% 4 "% !# %$*%3(!#(1'"4% (#2 (#% (# 3) 3 % 4%$! % (4%+ 3!1%"$%$%3(0%)("% "'*3 #4% % 3)%& !#*-4-)4(' (!#4-7(**) '"1! * (#(#2("2(# (#0!/%& #!) "% 4 "(" !$)% 1! *($%'4' "%)%!#*-2%#3-4-7)(3))% &(3 %"! $% "!# #& 3!#"3(%#3% 3 # 4% , ' (# !, 3 (3% ("%0(&%#))%"% 0 (!'"-,!(# "!$ 0(%7 %(1,*(3 %& (#) % ('&%" /%#! !9& -!7 & 1! *(#" '3(!#(#)% "3)!!*"1)!"%7)!$%%*) 1! *(-("1 %!$%)% 1! %"($) %-7 #1! *3'* '%(#)% "3)!!*"1)0%(#2 1(#&:"%)%"'4" #3%!$)("))4(' + (#2 (#(#2,*'"*(*%(#" '3(!# , %3%, (0% (#3) 3 % ! 1%)!7%0% (#/))("& !21 (3(#" '3(!#7(** /%)% ",((!'1 !$)%) 4("%) (("%&"(2#%& !(&)%-)!*&) 1! *3'* '% ")!'*& 4% (#&(%3 5) 7% 2% (4%" 4-2 7(#2(# !( ) % #4-) 0(#2(, % 3)%& !'"5) !" % (# '*%")%, (#3(,*%") ")!'*& 3!#" # *-4% %?%1,*($%& (#) 4("("! &% *(# ,* ('&%")% %("(" *($%(#"'3), %3%, "7)%#7% *(0%)%1#!7)%#7% 1% %*-*/ 4!')%1 #)%!)%)#&)!"% 7)!7!'*& $!'#& 1! *(-!#& %$*%3(!# 1 -)!*&)(!'*& 4% 3)!$3)(*& %#' "!'%?3*'&%(!$!1')%" '&(%"!$)% %*%1%# -"3)!!*"5 !'($)%-)0% 1! %$ 0! 4*%#!(!#!$)% 3, 3(-!$)%3)(*&)%-1 -7(")'%3* ""%"'"% (!'"*-' !' &("3'"")%0(*, !4*%1") 3!#" (' %1!! %&("" '%" (#) %$($%!$)%& - (" %0(&%#) (#" '3(!#(# 1! *"" &!%" #!'2!$ '4%$! %(' %3)%"')%,* #%!$ %$*%3+ (0% 1! *(-#&))("(" 3((3*'(#%"%&!#*-'(#) 7)(3)'(" #!'-% '1 %'!$) 4(' !'(#) 4(' 7)(3)'(" 6'%"(!# 4*%' %#&" !'&("(# %2 %#& !'%3!#" '3)% 1!%")% 7("%(') "*(*%2!'#&$! 4%(#2 ;JB)% ""!3((!#!$ %*(2(!# 7( )' 1! *" ("0%-* 2%*-% ",!#"(4*% $!')% "(' (!# !9& -(# %$% %#3% !' 1! *(#" '3(!# %#)% 0% -4%2(##(#2 !$ 3!#"3(!'"% %#&% 0! " !' "',,*%1%#)% 1! %" 4-'&(%3 % 3)(#2' %*(2(!# ,* -%& , !1(#%# ,,)% 3'"+ !1") '"!3(% -7 " 1!" #?(!'" !'%1,) + "(=%'(#0!*0%& " '*%(#&(0(&' *" 3($(3% $!' 3!11'#(-7%*+ $ % # 1 /(#2' 3!#"3(!'" ,,% *!#4%) *$!$ "'3)' 1! %")% 4%*(%$(#) % "',% # ' * 7 "!$)% 2 % %"')%*, #" '3(!# ,,% *")% % ' "* 7 -"' !')% % "!#' 4' !' ' % "!#' #3((3* !$)% , !&'3" !$("(1 :# (!#' #' (#&(#2(!# (!#' '3(!#$!'#& "!1%)(#2 #%7' #&$%")') ' 3!'*& 4% '"%& !' %%#$! 3%)% 1! %")%) # !' 3 '"% !#% !' 2 !7' 7% -' !'"/%, (3 *!$)%1' ! *(#" '3(!#(#)% 2'("% !$ %*(2(!#3 #(# % %" ' #& (#",(%')% 1(#&(" *' %& 7 -$!1')% 3!1 1!#,* 3%" !$ %0% -& -)$% #&(#0(%&' !",%3'* % 4!' ')% %7 &" #&, '#(") 1%# " !$)%(#0("(4*% ,!7% ") ', %"(&% !0% ')% &%" (#-!$ 1 #')% 2*! -' #&)% % !'!$"')' '#%?,*! %& %?,%+ (%#3%" % ' #%0% $ (*(#2' "(1'*'" !')% (1 2(# (!# #1!&%1' (1%")% " '22*% !0% $ %%&!1' (# %*(2(!'" 1 % ")" %"'* %&(#)% %1!0 * !$ 1'3)' ! ' ** %*(2(!'"(#" '3(!#$!1')% # (!# * "3)!!*" (# &%1!3 (3 3!11'#((%"" ;"%% 5 . *& * + ($8')%)(" ! (3 ""!3((!# !$ 1! * #& %*(2(!'"(#" 3(!#) "" 3 '"%&)% * %' !' 3 -)% $! 1%'7( )(! ' !$)% 3' (3'*'1 #3% $% %)% %0!*' (!# #&)% #(%& %" (** '" %)(" %#&%#3-' 4%" 1!#2)% * 2% % " %" # 1 #-3 "%" "3)' %*(2(!'" ! 2 #(= (!#" ",,!""%"%& 1! % ! *%"" &%6' % "-" %1' !$ "3)!!*" '#&%)%(!7# 3!# !* %"(" %&)% &%0%*!,1%# !$)% # (!# * "3)!!*")!*&(#2)%1' !' 4% !&*%"" (#" (' (!#" 3 *3'* %& !' ") ,%#)% 7(")% ') # !' 3'* (0 %)% 3!#"3(%#3% ') " %0%# 4%%# ' 2%&) #!#+ "%3 (# %&'3 (!# , !&'3%" 3(1% #& (# , !!$)% %!$ ")!7#))% 1!'# !$ 3 (1% " (#&(3 %& 4-')% " (" (3" (#3 % "%& 7( ))% &%0%*!,1%# !$ " %"3)!!*" ' 1! % 3 %$'* %? 1(# (!# !$)% & 1 &% 3*%)!7%0% '))% , , %# (#3 % "% !$ 3 (1% 7 " &'% !')% &&((!# !$ #%7' 3 '"%" !$ %" " "'3)' " & '#/%##%"" ! ' !')% 1! % 33' %/%%,(#2 !$ %3! &" !$ %" " ' ! ' !')% 2 % %'0(2(* #3%!$)% !$$(3% " !$)% * 7' #,!(# !$ $ 3)% & '"%% 1' !'(#&(3 %) %&'3 (!#' %0%#")!'2)' (&!%" #!' (#3*'&% ",,%3($(3 1! *(#" '3(!#' %#&" !' %&'3% 3(1% 4-'(#3 % "(#2 %$$(3(%#3-' #&* "!'&(1(#(")+ (#2(# '1% "' %)%(#3%# (0% !'3(1% 9 !7%0% ')(" 1 -4%)% %)" "%%1%& 1'3)' % "!# !'&%,*! %)% * 3/'!$ 1! %,!"(+ (0%(#" '3(!#(# 1! *"" (#) %"3)!!*" #! &% '!'1 /%',')("&%$(3(%#3-' #&* -% '/%%,' !' ' (#" '3(!#", %3($(3 **-' %*(2(!'" %$$! ") 0%4%%# 1 &% !'&%0%*!,' "-" %1'!$ 1! *" #!'4 "%& !# %*(2(!# % % "!1%) 0% &("+ "%# %& #& 1 (# (#%&) %(#"%, 4(*(-!$)% 7!' ",%(**-'(# #2* #&) (" 0(%7') "$!'#&1 #-"' ,,! % " (#3%)% ,'4*(3 %*%1%# -"-" %1')% % 7 " '# (* 8GO< %# (%*-'(#)%) #&" !$)%0!*'# -""!3(+ (!#" !$ %( )% ')%) ' 3)'!$ #2* #&'!' ("+ "%# (#2 %#!1(# (!#" ' %*(2(!#) ") &(# !) % ' !,%#'3!'# -' 7%) 0%)%# "3)!!*" 7% %* % %" 4*(")%& (#&%,%#&%# *-' 4-')% , '4*(3 ')! ((%" ' *(*%' #&%#!1(# (!# * %*(2(!'" (#" '3(!# 7 " 2(0%#' (#)%1' #&' 1! * % 3)(#2 7 " 3!##%3 %&' 7( )' (# #3% 7)% %' ,%) ," ' %*(2(!#) " 4%%#' 1! % 3!1+ ,*% %-'%?3*'&%&$!1' %"3)!!*") #(# #-!)% ' !,%#'3!'# -' 7%) 0%)%1!" &%$(#(% %1, ' !' &%0%*!,' 1! * (#" '3(!# (#&%,%#&%# *-')% * 7' !$ 8GGJ %6'(%& 3% (# 1!'#' !$ 1! * #& 3(0(3(#" '3(!#)% " 1% (1%'!#%& -' 7%%/'(# &&((!# !' '#& -' 7 " **!7%&')% 3)(*& %#))% , %# " 1(2) ($)%-7!'*& , !0(&% %*(2(!'"

I<0

4 ' ʻ)% ʻ (#ʻ ! ' "(#2ʻ !ʻ $ %%ʻ ' % #3%ʻ #ʻ(##% ʻ 0!(3% ʻ #ʻ)%ʻ 6 '%" (!#ʻ !$ʻ)% # ' %ʻ !$ʻ)("ʻ (##% ʻ(#"(2) ʻ 7%ʻ) 0%ʻ)%ʻ (!# *("ʻ 1ʻ !$ʻ #ʻ ! , , !"%&ʻ !ʻ(# '((!#("ʻ 1 ʻ #ʻ $! '#&"ʻ 1 ! *+ (-ʻ !#ʻ % "!# ʻ Q ʻ#! ʻ %1 , ((3 *ʻ % "!# ʻ 7) (3) ʻ (#0%" (2 %"ʻ 3!#"%6 '%#3%" ʻ 4 ' ʻ , ' %ʻ % "!#ʻ 7) (3) ʻ %0% *"ʻ)% ʻ (2) ʻ (#ʻ ("%*$ ʻ '3) ʻ (2) + #%"" ʻ)% ʻ) !*&" ʻ 3!#"(" "ʻ (#ʻ 3!#$! 1 (-ʻ !ʻ)% 4"!*' %ʻ 1 ! *ʻ * 7 ʻ)%ʻ '#(0% " *ʻ 3 %2! (3 *ʻ (1 , % (0% ʻ #%ʻ 1 -ʻ 3ʻ (2) *-ʻ #&ʻ -% ʻ , , %# *-ʻ 4 (#2ʻ &(" " % ʻ !ʻ) (1 "%*$ #&ʻ !)% " ʻ '% ʻ 1 ! *ʻ 3 '* ' %ʻ 3!#"(" " ʻ)% %$! %ʻ (#ʻ %#+ &% 0! (#2ʻ !ʻ ! '"%)% ('&%ʻ !$ʻ 2!!&ʻ 7(*ʻ 7) (3) ʻ 3!#"(&% "ʻ !#*-ʻ)% ʻ $! 1ʻ !$ʻ)% ʻ 3 ʻ #&ʻ ("ʻ 3 %*%"" ʻ !$ʻ 3!#"%6 '%#3%" ʻ)% ʻ (# ' ((!#(" "ʻ) !*&ʻ) ʻ)% ʻ 7 %#%"" ʻ !$ʻ)% (2) ʻ ("ʻ #! ʻ %0%#ʻ % "!#%&ʻ ! ' ʻ 4 ' ʻ ("ʻ ʻ 1 % ʻ !$ʻ &(%3 ʻ , % 3%, + (!# ʻ !ʻ % 3) ʻ 1 ! *(-ʻ 4%3! 1 %" ʻ !# ʻ)% (ʻ 0(%7 ʻ # *!2! ' "ʻ !ʻ % 3) (#2ʻ !#% ʻ !ʻ ' "%) ("ʻ %-%" ʻ %ʻ &!ʻ #! ʻ *% #ʻ ʻ 1 ! *ʻ * 7ʻ #&ʻ)%#ʻ , , *-ʻ (ʻ "ʻ # ʻ "ʻ , , !"%" ʻ 4 ' ʻ 7% "(1 , *-ʻ *! ! /ʻ " % &+ (*-ʻ ʻ 7) ʻ 7%) (#/ ʻ !$ʻ &!(#2ʻ #&ʻ ("ʻ (2) #%" "ʻ ! ʻ 7 !#2#%" "ʻ 4%3! 1 %"ʻ (1 1 %&(%*-ʻ , , %# ;NBʻ (# **-ʻ 1 !#2ʻ)%) (" ! (3ʻ $ 3 "ʻ)) 0%ʻ %# % %&ʻ (#ʻ !ʻ&% % 1(#%ʻ)%ʻ 3) 3 % ʻ !$ʻ)% , !4*% 1 ʻ !$ʻ 1 ! *ʻ (#" '3 (!#ʻ !9& -ʻ (") ʻ !$ʻ 3) #2% #&ʻ 0 (% -ʻ (#ʻ)% 1 ! *ʻ 3!&%" ʻ)% #! (!#ʻ) ʻ (#ʻ 1 ! *(-ʻ 7%ʻ) 0%" ! 1 %) (#2ʻ 7) (3) ʻ &($% "ʻ $! 1ʻ %*(2(!#ʻ (#ʻ) ʻ)% % ("ʻ '#(0% " *ʻ 2 %% 1 %#ʻ "ʻ !ʻ ("ʻ ($% ' % #&ʻ '*%"ʻ ("ʻ %0(&%# *-ʻ % !#%! ' "ʻ (" ! (3 **-ʻ)% 0(%7 "ʻ !$ʻ 1 #/(#&ʻ (#ʻ %2 &ʻ !ʻ)% (2) #%"" ʻ !$ʻ 3 ʻ) 0% 3) #2%&ʻ 6 ' (% "ʻ 1 ' 3) ʻ "ʻ)% (ʻ#! (!#"ʻ !$ʻ %*(2(!#ʻ ! ʻ %? 1 , *% ʻ (#$ # (3(&% #&ʻ 3 ##(4 *("ʻ 1ʻ #&ʻ) *! -ʻ) 0% 4%%#ʻ)%*&ʻ !ʻ 4% " 3 %&ʻ 7) %# , ! , % *-ʻ 3 (%&ʻ !#ʻ !9& -ʻ)% %! 1 1 !#ʻ D ' &2 1 %# ʻ !$ʻ)% %#*(2) %#%&ʻ "%% 1 "ʻ !ʻ 4% ʻ #(%&ʻ (#ʻ 4) ! %#3% ʻ !$ʻ)%1 ʻ % ʻ 1 #-ʻ 1 !#2ʻ)% "!93 **%&ʻ %#*(2) %#%&ʻ $%%*ʻ #!ʻ) ! ʻ "! 1 % "! "ʻ !$ʻ (#$ # (3(&% ! ʻ !$ʻ "%?ʻ *(# % 3! ' "% #! ʻ %3! 2#(=%&ʻ 4 -ʻ * 75 (#&%%&ʻ)%-ʻ D ' " ($-ʻ)% 1 ʻ #&ʻ 7) (*%)% %?3% , (!#"ʻ !ʻ) ! "% 7) !ʻ !9& -ʻ 3!#3 ' ʻ(#ʻ %2 &ʻ !ʻ)%"% $ '#& 1%# *ʻ 1 % "ʻ %ʻ , %) , "ʻ $%7 ʻ)% ʻ '# #(1(-ʻ(#ʻ %2 &ʻ !ʻ D ' "ʻ 7) ʻ("ʻ , % 1(%&ʻ (#)% 1 %ʻ !$ʻ)% *ʻ (!#"ʻ !$ʻ)% "%?%"ʻ D ' "ʻ 7) ʻ("ʻ (#0!*0%&ʻ (#ʻ 0% 3(-ʻ ! ʻ 4 ' "(#%"") !#%" -ʻ ! ʻ(# %1 , % #3% ! ʻ(#ʻ , ! , % ʻ"% 0(3% !ʻ)%ʻ " %ʻ ! ʻ, ! , % ʻ %2 &ʻ $! ʻ , %# "ʻ $! ʻ "% 0 # "ʻ ! ʻ $! ʻ 3) (-ʻ("ʻ 3% + (#*-ʻ 0% -ʻ "3 # ʻ $ʻ)% "3) ! !*ʻ ("ʻ !ʻ /%% , ʻ !ʻ)% ʻ #(0% " **-ʻ %3! 2#(=%&ʻ (#ʻ 1 ! *(-ʻ (ʻ "%% 1 "ʻ !ʻ 4% 3!#$!# %&ʻ 7( ) ʻ)% #%3%""(-ʻ !$ʻ &% *(#2ʻ !#*-ʻ (#ʻ 2%#% *((%"ʻ #&ʻ , * ('&%"ʻ 1 ! #2ʻ)% ", %3(*ʻ 4("ʻ !$ʻ %) (3 *ʻ (#" '3 (!#ʻ !ʻ 4% $! '#&ʻ (#ʻ %? 4 ! ! /"ʻ 7(&%*-ʻ ' "%&ʻ (#ʻ)% %#3) ʻ "3) ! !*"ʻ ("ʻ)("ʻ (#ʻ %2 &ʻ !ʻ)% ('&%ʻ !$ʻ 3)(*& %#ʻ ! 7 &ʻ , %# "5 Hʻ !ʻ #! ʻ 4% $ 1(*+ (ʻ 7( ) ʻ)% 1ʻ "ʻ -! ʻ %7( ) ʻ -! ʻ 3! 1 , #(!#" Rʻ) % (# % , % (!#ʻ !$ʻ)("ʻ , (#3(,*% 4 -ʻ &($% %#ʻ) ! ' "%) ! *&" ʻ #&ʻ %" , %3(**-ʻ (#ʻ 1% (3 ʻ 7 ! ' *&ʻ %0(&%# *-ʻ 0 -ʻ 2 % *- (! ' "ʻ (%7 "ʻ !#ʻ)% "-3) ! *! 2-ʻ !$ʻ)% ! *ʻ %#"% ʻ Q ʻ)% ʻ , !4*% 1 ʻ !$ʻ 1 ! *ʻ 3 ' * ' % !9& -ʻ ("ʻ $ ')% ʻ 3! 1 , *(3 %& 4 -ʻ 3!#$*(3 (#2ʻ 0(%7 "ʻ "ʻ !ʻ)% ʻ , "-3) ! *! 2-ʻ !$ʻ)% 1 ! *ʻ "%#"% ʻ '#& 9 1 %# *ʻ 1 !#2ʻ)% ("" '%"ʻ (#0!*0%&ʻ)% % ("ʻ) 4% 7%%#ʻ) !"% 7) !ʻ %2 & 1 ! *ʻ &%0%*! , 1 %# ʻ "ʻ %""%# (**-ʻ ʻ #%2 (0% ʻ (#)(4((0% ʻ , !3%""ʻ #&ʻ) !"% 7) !ʻ) !*&ʻ) ʻ (ʻ("ʻ ʻ4 ! 1 ʻ , !"((0% ʻ 3!#" '3 (0% ʻ 33! &(#2ʻ !ʻ)% $("ʻ , -ʻ 1 ! *ʻ %&'3 (!#ʻ ("ʻ ʻ , ' 2(#2ʻ 7 -ʻ !$ʻ ! (2(#ʻ *"(#ʻ ʻ , ' ($(3 (!#ʻ !$ʻ)% ", ((ʻ $! 1 ʻ)% (#ʻ !$ʻ $*%") ʻ ʻ 7 ʻ 2 (#" ʻ "%*$(") #%"" ʻ ! ʻ ʻ 3' 4(#2ʻ !$ʻ)% ʻ 4 ' %) ʻ 7% (#) % (ʻ (#ʻ)% ʻ (# % %" ʻ !$ʻ)%) (2) % ʻ 3(0(*(= (!#ʻ !$ʻ !9& - ʻ)("ʻ 3!# !*ʻ !$ʻ !ʻ ʻ 4 "% ʻ # ʻ % 1 -ʻ 4% 3!#3%(0%&ʻ !ʻ 4% &%, %#&%# ʻ , !#ʻ)% (#$*'%#3% !$ʻ)% %7 &"ʻ #&ʻ , '#(") 1 %# "ʻ %" 4*(") %&ʻ 4 -ʻ)% %1 , ! *ʻ #&ʻ)% ", ((' *ʻ '*% "ʻ 7) !ʻ &% % 1(#%ʻ !ʻ ʻ $! '#%"ʻ) % %ʻ #&ʻ) % % $ % ʻ !ʻ ʻ , !#ʻ)% 7("&! 1ʻ) ʻ) "ʻ 3! 1 %ʻ !ʻ , % 3%(0%ʻ)% ʻ , %# * (%"ʻ) ʻ # ʻ % 0("("ʻ ' , !#ʻ) !"%ʻ 7) !ʻ , % 1 (ʻ)%(ʻ , , % (%"ʻ #&ʻ , ""(!#"ʻ !ʻ 3!# !*ʻ)% 1 ʻ ! ʻ $(# **-ʻ ʻ , !#ʻ)% 4( ) ʻ !$ʻ #ʻ (##% ʻ 3!#"3(%#3% ʻ ", ((' *ʻ 6 ' *(-ʻ Q ʻ)%ʻ , !&'3 ʻ , %) , "ʻ !$ʻ (0(#% 3% ʻ 4 -ʻ 0('% !$ʻ 7) (3) ʻ !#% 3! 1 %"ʻ !ʻ &%", ("%)("ʻ (#$% (! ʻ "%*$ ʻ #ʻ #-ʻ %0%# ʻ)% $ ' #3 (!#ʻ !$ʻ)% % 3) % ʻ("ʻ)%*&ʻ !ʻ 3!#"(" ʻ (#ʻ)% ʻ "/ ʻ !$ʻ 2% (#2ʻ)% *! 7% ʻ # ' %ʻ '#&% ʻ 3! # !*ʻ %(" ʻ * 72(0% ʻ) % %#(#2ʻ #&ʻ , '#(")(#2ʻ , '&%# ʻ &0("% ʻ , !(# (#2ʻ ! ' ʻ)% $!**-ʻ !$ʻ %0(*7 -"ʻ ! ʻ ʻ , % 3) % ʻ") 1(#2ʻ)% "%*$9(#&'*2%# ʻ)% &(") !#%" ʻ #&ʻ)% 4 "% 4-ʻ %?)(4((#2ʻ)%(ʻ ") ! 3! 1(#2"ʻ !ʻ)% 1 "%*0%"ʻ #&ʻ !ʻ !)% ")% &0!3 %"ʻ !$ʻ)% 3!#" '3 (0% (&% *ʻ !$ʻ 1 ! *ʻ 3 '* ' % 1 (# (#ʻ) ʻ **ʻ ! ʻ ʻ #-ʻ % 1 !"ʻ ʻ !$ʻ)%) ' 1 #ʻ &%"(%"ʻ) 0% ʻ $'#3 (!#ʻ) ʻ)% "/ ʻ !$ʻ "%*$93!# !*ʻ("ʻ #! ʻ "!ʻ 1 ' 3) ʻ) ʻ !$ʻ " ' , , %""(#2ʻ)% %0(*ʻ "ʻ (ʻ("ʻ) ʻ !$ʻ %#&!*'2%#ʻ (#2ʻ)% 2!!&ʻ 1 !#2ʻ)% %? %1% &0!3 %"ʻ !$ʻ)("ʻ 0(%7 ʻ("ʻ !'""% ' ʻ 7) ! ʻ)%*&ʻ) ʻ 1 #ʻ ("ʻ 4! #ʻ 2!!&ʻ #&ʻ 3! ', %&ʻ 4 -ʻ %&'3 (!#ʻ %#3% ʻ 7( )ʻ)(1ʻ)% (&% *ʻ %&'3 (!#ʻ ("ʻ !ʻ *% ʻ) % 3)(*&ʻ *!#% ʻ $! A (#ʻ ("ʻ # ' *ʻ &%0%*! , 1 %# ʻ 7(*ʻ 4% $! '#&ʻ)% 4%" ʻ 3 '* ' % ʻ)% 1 ! % 1 !&% %ʻ 3!#3%, (!#ʻ ("ʻ) ʻ 7) (*%)% # ' *ʻ 3)(*&ʻ ! ʻ 1 #ʻ ("ʻ 4 -ʻ #! ʻ 1% #"ʻ 1 ! **-ʻ , % $%3 ʻ -% ʻ)% &!%"ʻ) 0% (#ʻ)(1ʻ)% 6 ' *((%"ʻ)% (2) ʻ &%0%*! , 1 %# ʻ #&ʻ) 1 !#(= (!#ʻ !$ʻ 7) (3) ʻ 7(*ʻ 1 /% !$ʻ) (1ʻ #ʻ (&% *ʻ (#&(0(&' *ʻ ! *ʻ 3 '*+ ' %ʻ ") ! '*&ʻ)% %$! %ʻ (1 ʻ#! ʻ ʻ "ʻ , , %""(!#ʻ 4 ' ʻ ʻ #ʻ) 1 !#(! 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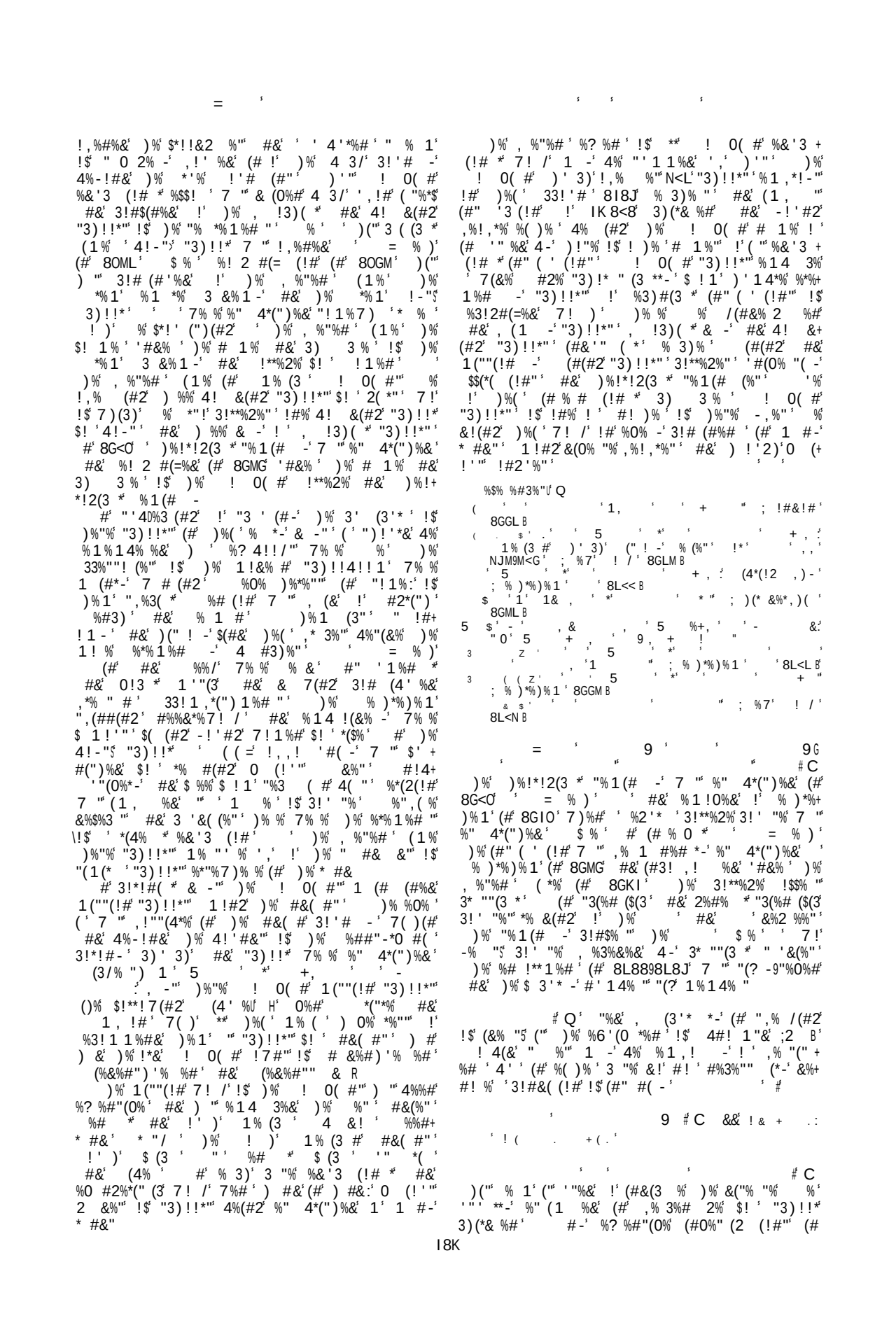

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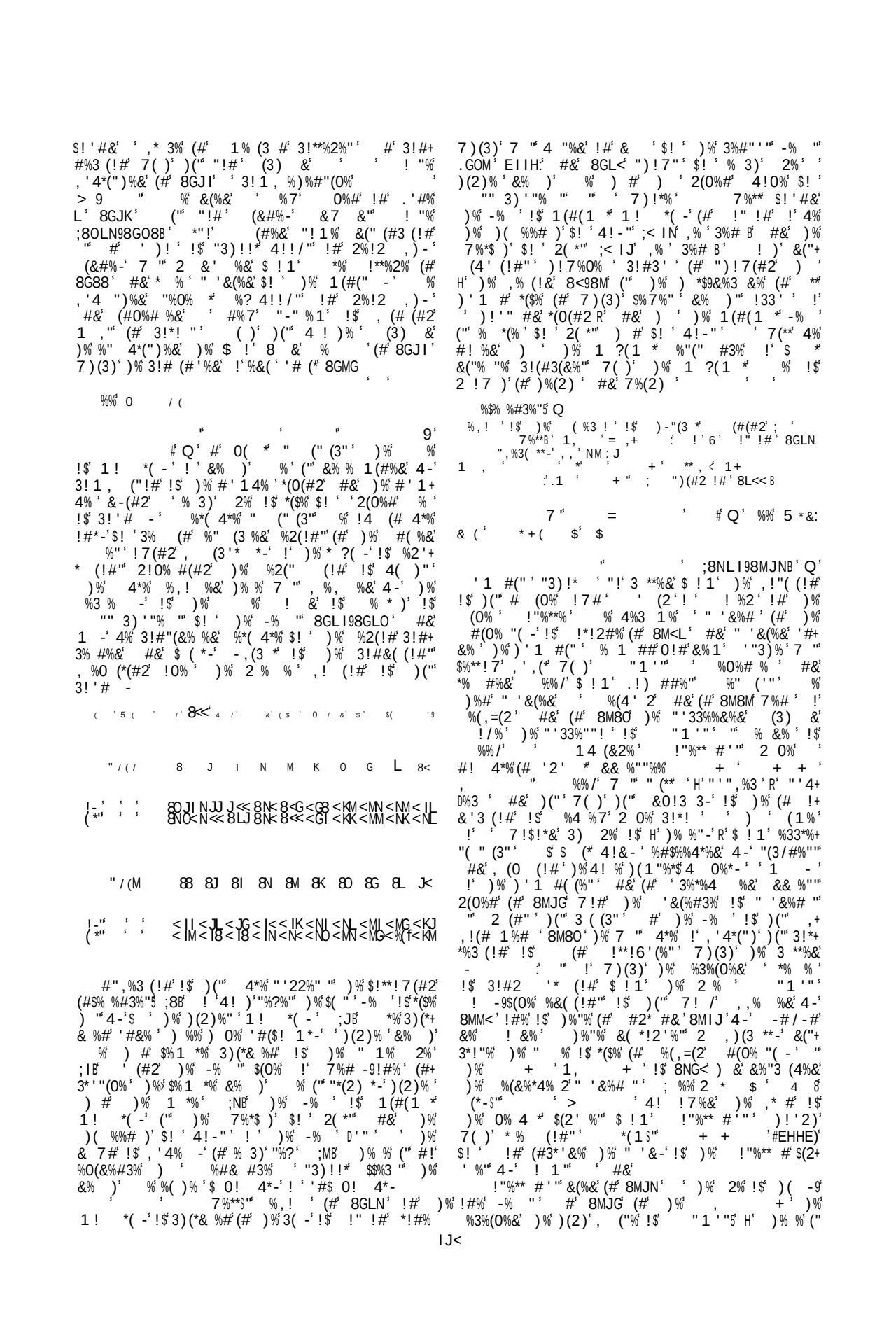
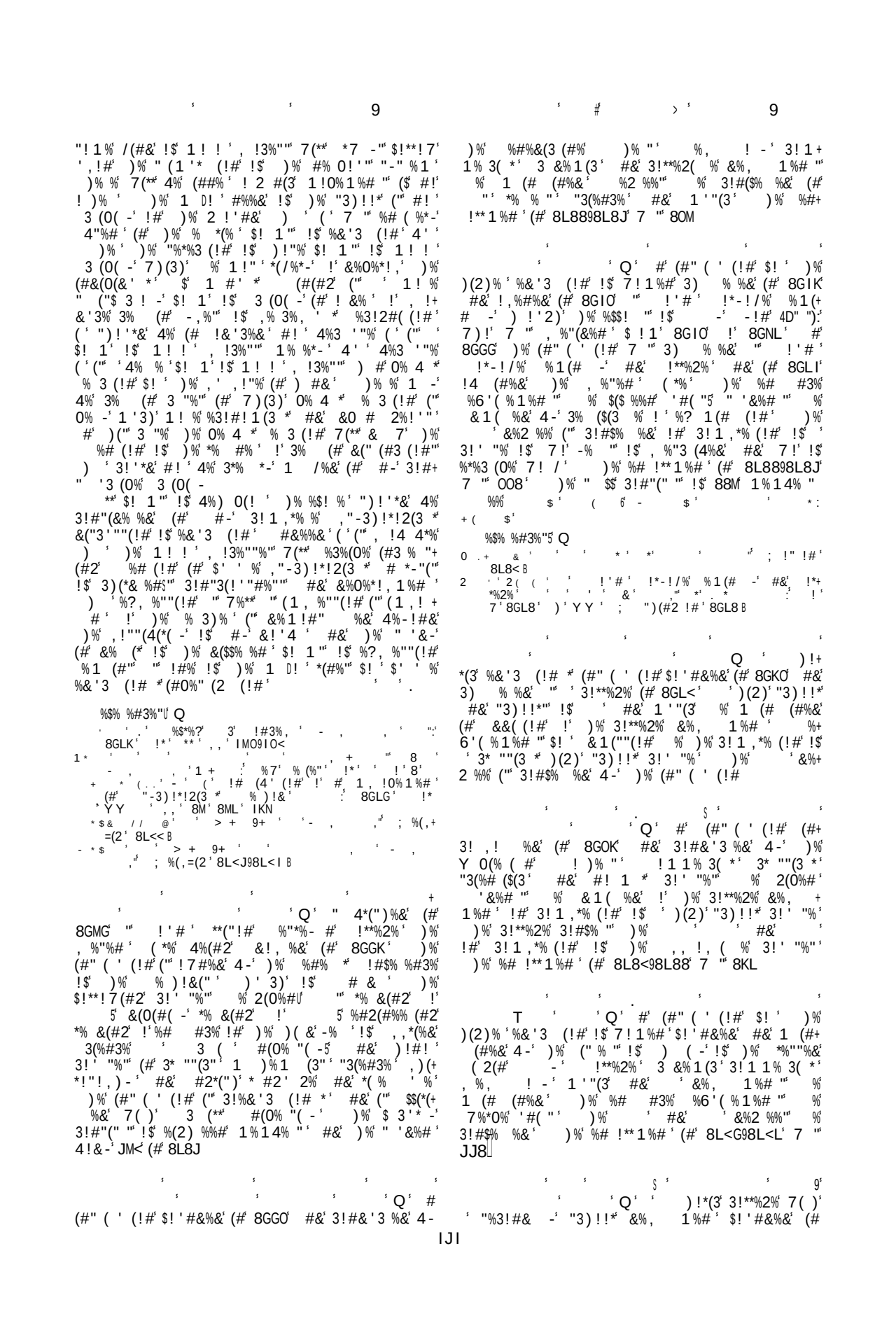
" / ' ;8OK898GJKB' Q' ')!' !$')%' $(" ' 1% (3 #' "3)!!*4!!/"' !#' 2%!2 ,)-' %' " '&(%&' ')%' !!&" !3/' 3 &%1-' #&' 7 "' 2 &' %&' *%' !**%2%' (#' 8OGI' %' '2)' "3)!!*' $!' ' $%7'-% "' #&' 7 "' !#%' -% ' ' ' ! ' ' *%' #2 2(#2' (#')%' 7! /' !$')%' 1(#(" -')%' 7 "', " ! ' $!')(-'-% "' !$')%' (" ' !#2 %2 (!# *')' 3)' ') *%" !7#' "" ' %' 7 "' 3 (0%' (#')% $! 1 (!#' !$')%' !3(% -' $!')%' !, 2 (!#' !$')%' !",%* ;8OLJB' #&')% 7 "')%' $!'#&%' !$')%' ""!3((!#' $!')%' %$! 1 (!#' !$' ! *"' ' ')("' 1!" 4(&(#2' * 4!' 7 "' (#')%' *(#%' !$' ')! ")(,' !$" "3)!!*4!!/"' !#' 2%!2+ ,)-' (" > ' ' :' ,'4*(")%&' (#' 8OGN' 7 "')%' $(" ' 1% (3 #' "3)!!*4!!/' !#')%' "'4D%3 ')("' 7 "' $!**!7%&' (#' 8OGL' 4-')("' , ' > :' ' ' ! *' ' - ' 1 + ' *' ' ' 1 " #' 8OLO')%' ,'4*(")%&')(" ' *' > :' #&' (#' 8G8N')(" ' > " ! ' 1!%') #')(-'-% "')%"%' 7% % *1!"')%' "!*%' %? 4!!/"' !#')%' "'4D%3' '"%&'(#' 1% (3 #' "3)!!*"5 #&' 7()')%' (# !&'3(!#' !$')%' " '&-' (#' 3!**%2%"' ; 0 &' 8G8KB')%-' *"'!





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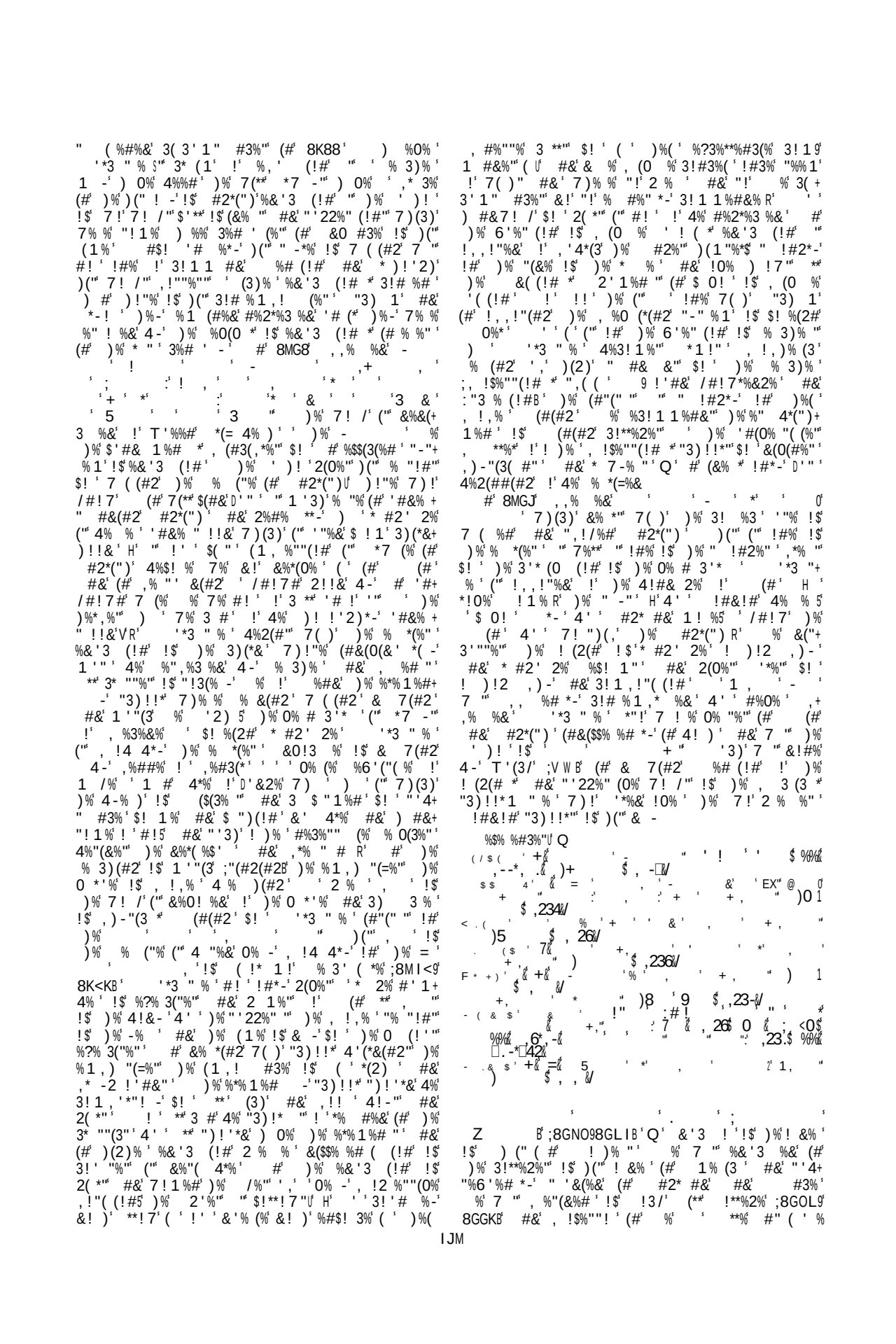

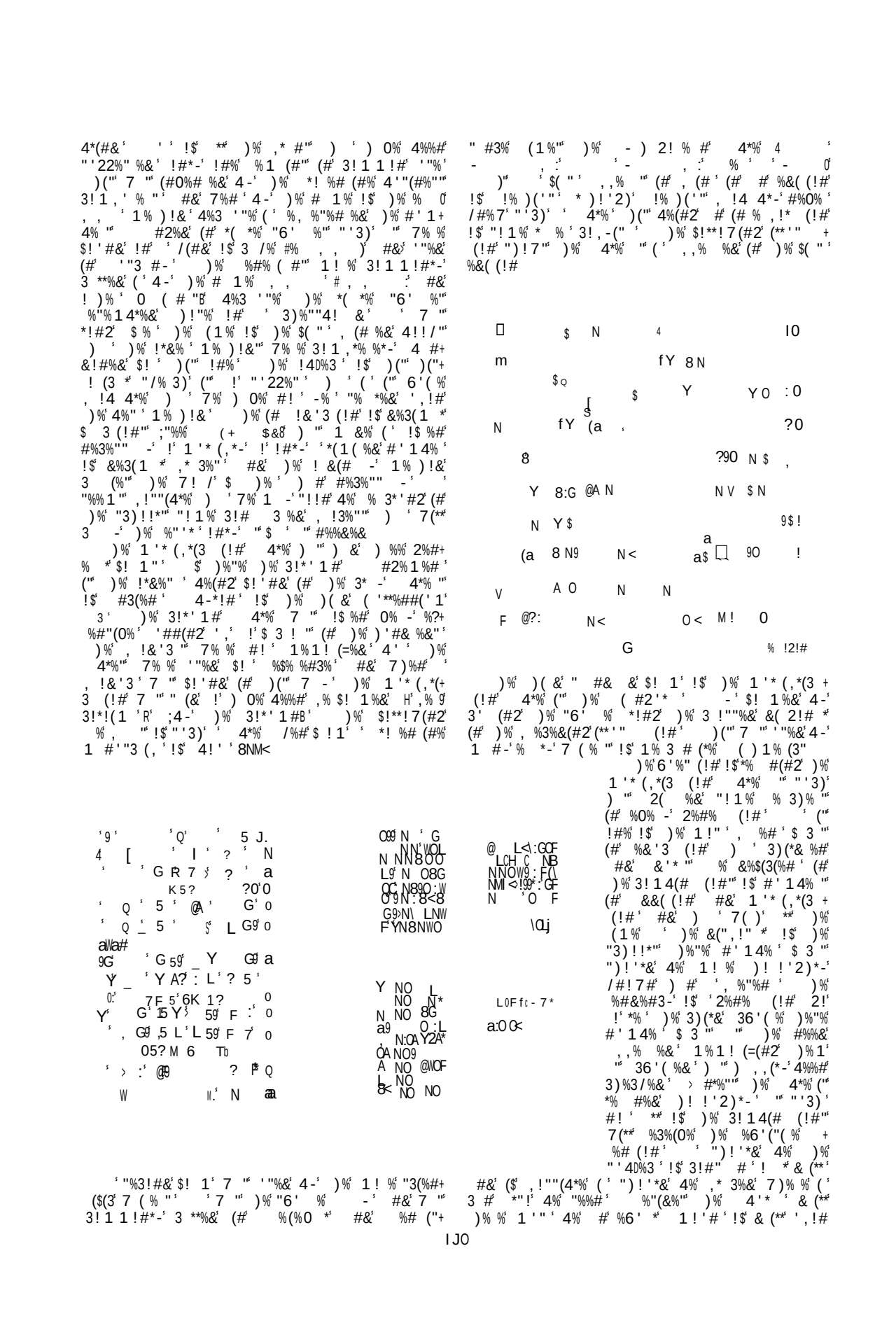

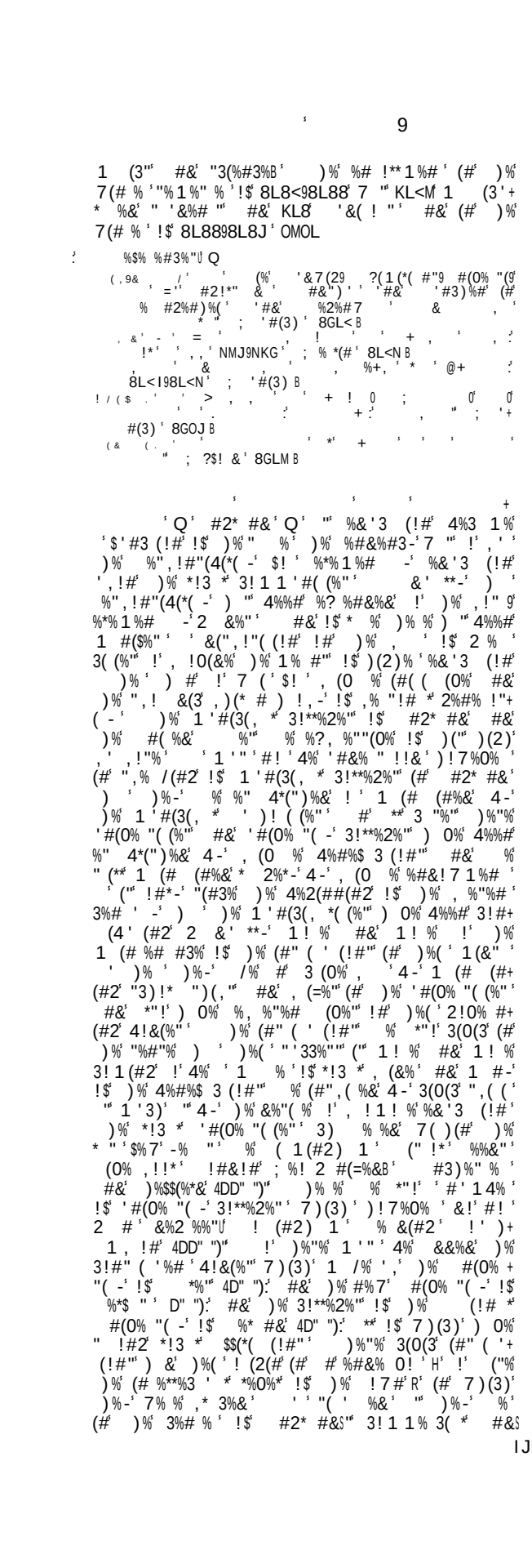

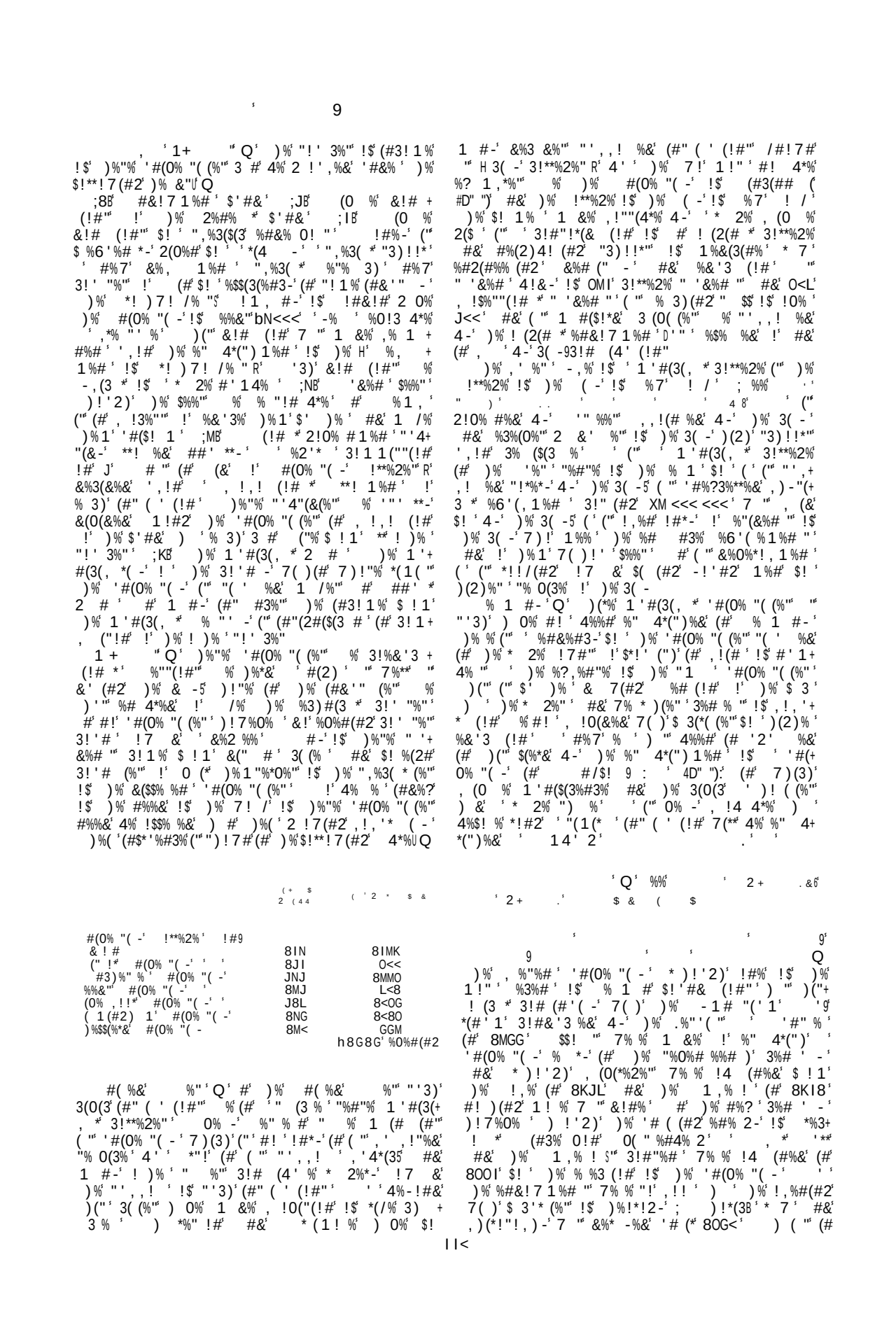

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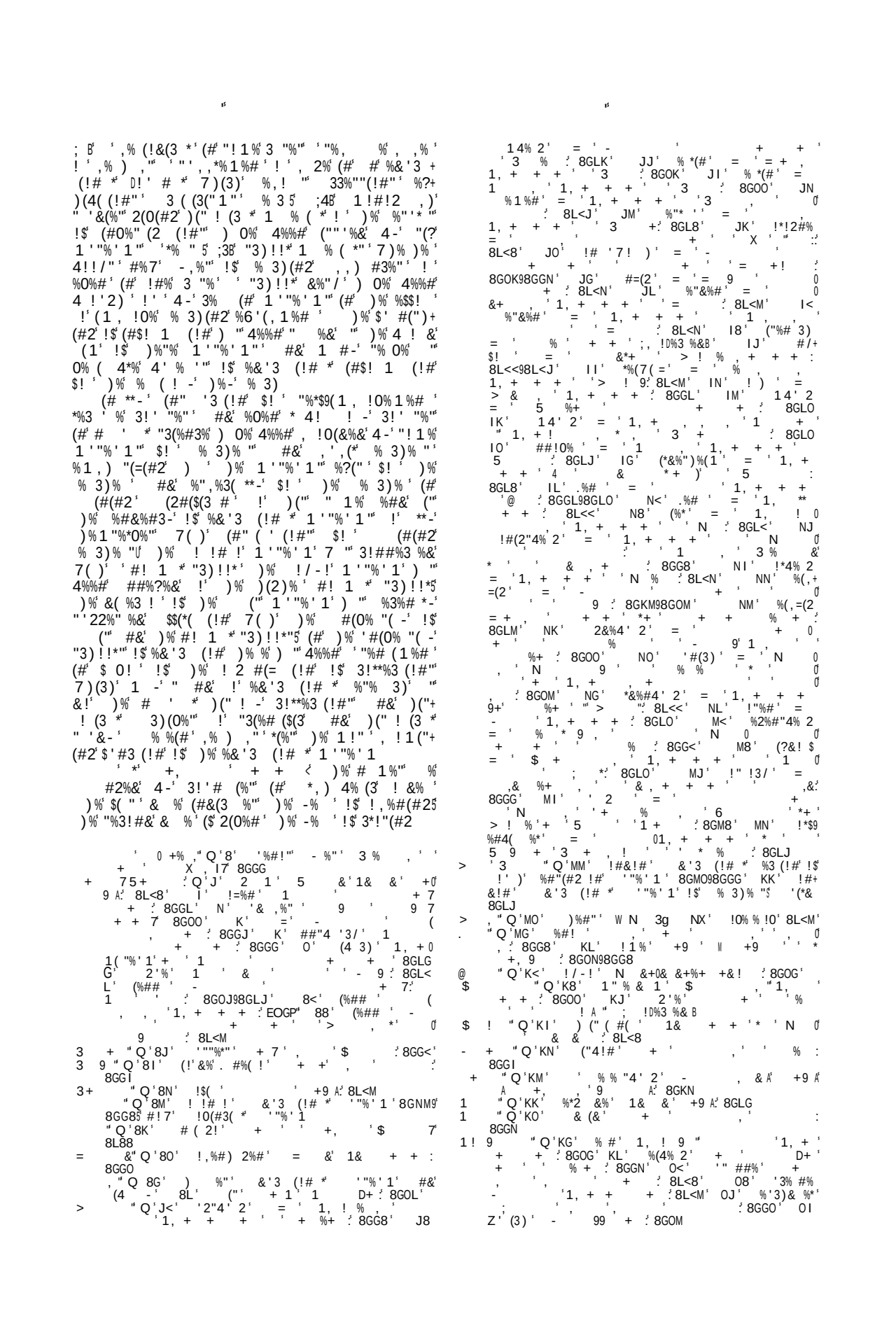
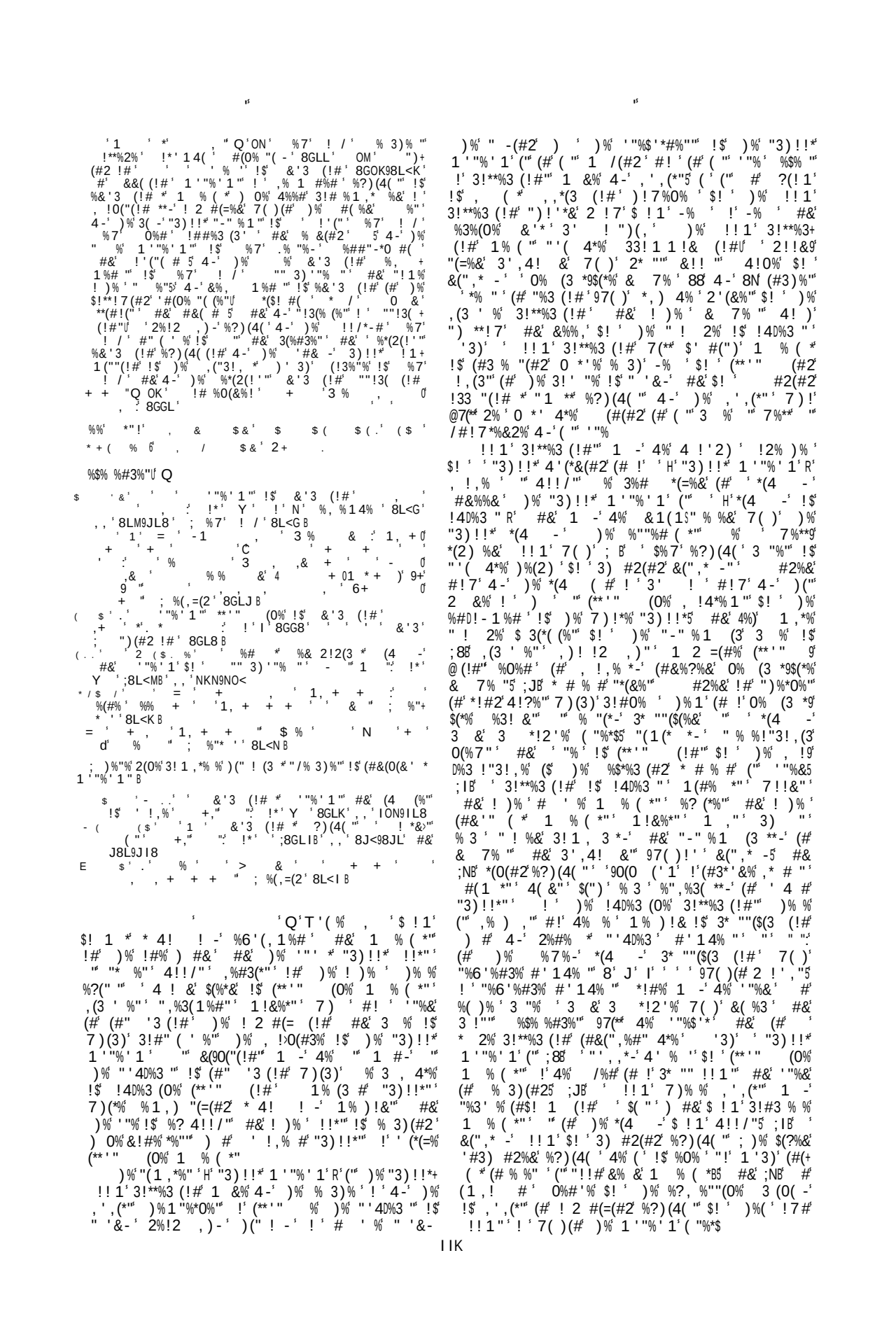
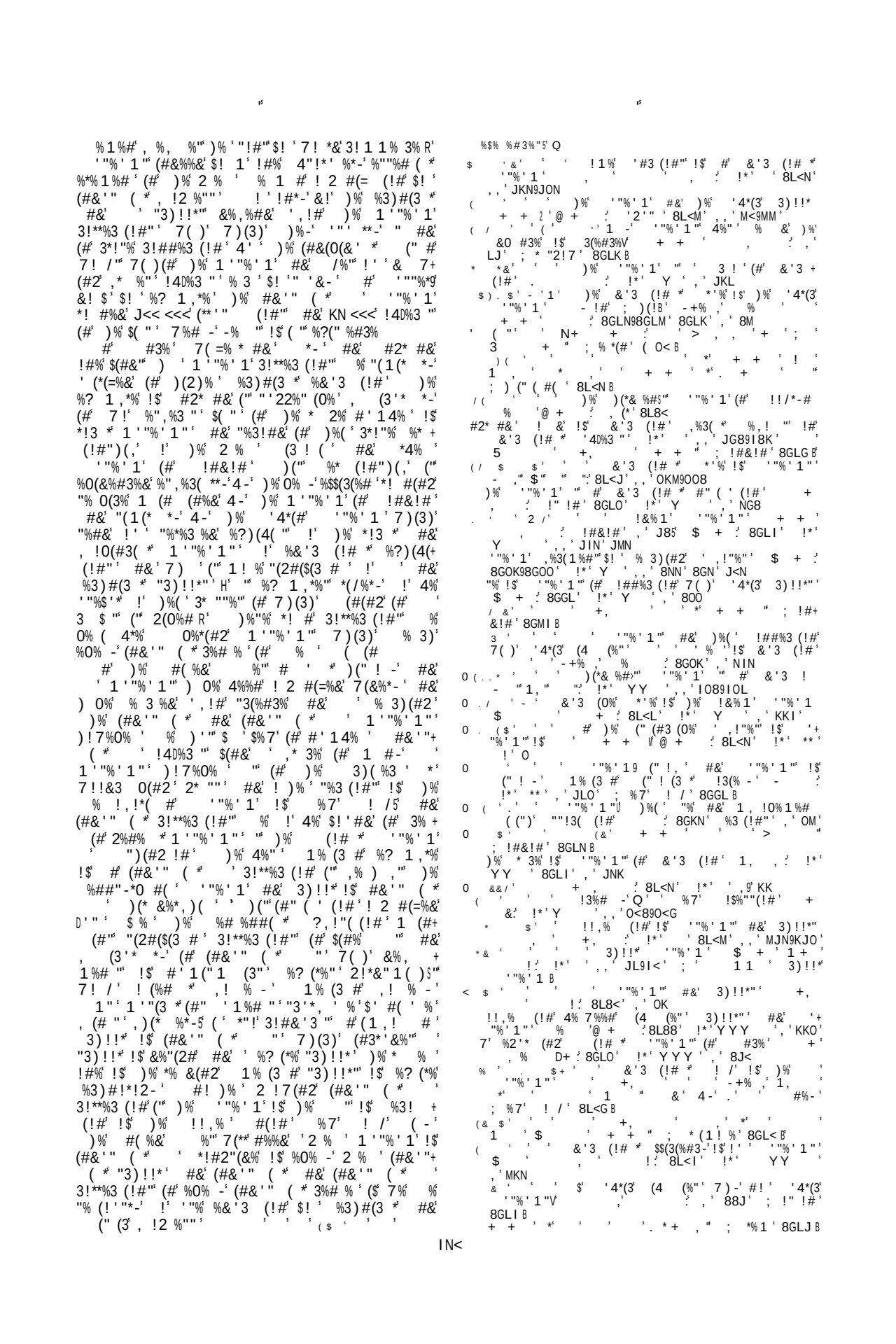




!$$% %&ˢ !ˢ 3)(*& %#ˢ #&ˢ 1 #-ˢ "3)!!*ʷˢ #&ˢ 3* ʷʷ%ʷˢ "%#&ˢ %, %"%# (0%ʷˢ 7)!ˢ * %ˢ %,! ˢ ˢ)%ˢ "3)!!*ˢ ! '%ʷˢ %ˢ *"!ˢ #2%&ˢ $!ˢ % 3)% "ˢ)'"ˢ)%ˢ !1 #$ʷˢ *'4ˢ)ʷˢ (#+ " **%&ˢ 3(0(3ˢ #&ˢ)% *)ˢ %?)(4("5ˢ #&ˢ 7! /ˢ !$ˢ ˢ "(1(* ˢ /(#&ˢ (ʷˢ 4%(#2ˢ &!#%ˢ 4-ˢ)%ˢ 3)!!*ˢ !$ˢ (0(3ʷˢ ˢ #&ˢ)(* #) !,-ˢ '#(3(, *ˢ ˢ % 2'%ˢ !'#3(*ˢ $!ˢ ˢ '"%'1ˢ #&ˢ (4 -ˢ ? %#"(!#ˢ #&ˢ !)%ˢ 4!&(%"ˢ #ˢ 8L8Jᵏ ˢ 4%+ 6'%"ˢ !$ˢ XJM< <<<ˢ 7ʷˢ 1 &%ˢ !ˢ)%ˢ (%*&ˢ '"%'1ˢ $!ˢ)%ˢ ",%3(*ˢ ,' ,!"%ˢ !$ˢ 1'"%'1ˢ %? %#"(!#ˢ (#ˢ)%ˢ ,'4*(3ˢ "3)!!*"ˢ ; %%1, ,ˢ %4ˢ 8Kˢ 8L8Jˢ, ,ˢ JK89JKJ B)%ˢ "(1,*%"ˢ 3!!,% (!#ˢ,%) ,ʷˢ) ʷˢ 4%%#ˢ)%ˢ %#3!' 2%1%#ˢ !$ˢ (#$! 1 *ˢ 0"((!#ˢ4-ˢ % 3)% ʷˢ #&ˢ ,',(*ʷˢ 7)%#%0%ˢ)%ˢ 1'"%'1ˢ , !1("%ʷˢ !ˢ4%!$ˢ)%*,ˢ(#ˢ)%(ˢ7! /5ˢ)'ʷˢ)%ˢ % !,!*(#ˢ '"%'1ˢ!$ˢ ˢ!$ˢ %7ˢ ! /ˢ) ʷˢ3 **%&ˢ)%ˢ %# (!#ˢ!$ˢ %3)% ʷˢ !ˢ,!""(4*%ˢ ,,*(3 (!#ʷˢ!$ˢ)%ˢ3!**%3 (!#ʷˢ(#ˢ)%('* #2' 2%ˢ ˢ #&ˢ)(" ! -ˢ (#" '3(!#5ˢ)%ˢ #%2(%ˢ '"%'1ˢ!$ˢ ("4' 2ˢ #&ˢ !)%ˢ 1'"%'1ʷˢ) 0%ˢ "!'2)ˢ !ˢ (#3 % "% (#$! 1 *ˢ 0"((!#ˢ 4-ˢ1% #ʷˢ!$ˢ ##' *ˢ, (=%%"ʷˢ -ˢ3!# %" ʷˢ !,%#ˢ !ˢ"3)!!*ˢ 3)(*& %#ˢ 7( )ˢ !,(3ʷˢ 4 "%&ˢ !#ˢ)% 3!**%3 (!#ʷˢ ˢ !!,% (!#ˢ 4% 7%%#ˢ,'4*(3ˢ 1'+ "%'1ʷˢ #&ˢ,'4)3ˢ"3)!!*ʷˢ(ʷˢ -%ˢ !ˢ 4%ˢ &%0%*+ !,%&ˢ(#ˢ 1 #-ˢ %",%3 "ᵘ)%ˢ ! 2 #(= (!#ˢ !$ˢ 4 #3)ˢ 1'"%'1ʷˢ 3!1, 4*%ˢ !ˢ 4 #3)ˢ *(+ 4 (%"ˢ,%) ,ʷˢ *!3 %&ˢ(#ˢ "3)!!*ˢ 4'(*&(#2"5ˢ)% 7 (#2ˢ !$ˢ "'(4*%ˢ H',%##-ˢ 2'(&%"Rˢ $!ˢ 3)(*& %#ˢ 7)(3)ˢ 7(*ˢ 2(0%ˢ "' 0%-ʷˢ !$ˢ $(%*&ʷˢ !$ˢ "3(%#3%ˢ #&ˢ!)%ˢ %?,!"((!#ʷˢ 4 "%&ˢ ',!#ˢ)% %?)(4("5ˢ)%ˢ,* 3%ˢ!$ˢ 3) #2(#2ˢ%?)(4(ʷˢ 7( )(#)%ˢ 1'"%'1ˢ 3! %* %&ˢ 7( )ˢ)%ˢ 3!' "%ˢ !$ˢ "'&-ˢ!$ˢ)%ˢ "3)!!*"5ˢ)%ˢ,!""(4(*((%ʷˢ!$ˢ! *ˢ (#" '3(!#ˢ 7( )(#ˢ)%ˢ 1'"%'1ˢ%( )%ˢ(#ˢ *%3+ ' %ʷˢ!ˢ(#ˢ,% (, % (3ˢ%?,* # (!#ʷˢ!$%?)(4("5 %?)(4(ʷˢ #&ˢ(#" '3(!#ˢ$!ˢ % 3)% ʷˢ ʷˢ &("+ (#3ˢ$!1ˢ,',(*"ˢ) ˢ)(ʷˢ $(%*&ˢ(ʷˢ !#%ˢ (3)ˢ (#ˢ D,!""(4(*((%ʷˢ $!ˢ "3)!!*ˢ #&ˢ 1'"%'1ˢ *(/% (ʷˢ %0(&%#3%&ˢ 4-ˢ)%ˢ "'33%"ʷˢ %#&(#2ˢ *! #ˢ %?)(4(ʷˢ "%#ˢ !ˢ "3)!!*"ˢ *%3 '%ʷˢ $!ˢ 3* ""%ʷˢ $!1ˢ)%ˢ "3)!!*"ˢ #&ˢ",%3(*%?)(4("ˢ !!1"ˢ #&ˢ 1'"%'1ʷˢ #&ˢ (2)%ˢ %3)#(3 *ˢ &'3 + (!#ˢQˢ)%ˢ,* 3%ˢ!$ˢ 1'"%'1ʷˢ(#ˢ)(2)%ˢ%3)+ #(3 *ˢ%&'3 (!#ˢ(ʷˢ1!%" (/(#2ˢ) #ˢ(#ˢ,'4*(3ˢ %*%1%# -ˢ #&ˢ "%3!#& -ˢ %&'3 (!#ˢ #&ˢ %",%3(**-ˢ(#ˢ)%ˢ) %%)(2)%ˢ$(%*&ʷˢ!$ˢ$(#%ˢ "ˢ)%(#&'" (%"ˢ #&(#&'" (*ˢ)%ˢ1'"%'1ˢ !$ˢ $(#%ˢ 7)(3)ˢ%?("ʷˢ(#ˢ, 3(3**-ˢ%0% -ˢ * 2%ˢ3%# %ˢ!$ˢ,!,'* (!#ˢ)ʷˢ!$%#ˢ ˢ$! 1 *ˢ "3)!!*ˢ!$ˢ ˢ 3)%&ˢ #&ˢ(ʷˢ#% *-ˢ *7 -ʷˢ ˢ ,* 3%ˢ!$ˢ(#$! 1 *ˢ ˢ%&'3 (!#ˢ)%ˢ(#&'"+ (*ˢ1'"%'1ˢ(ʷˢ!#%ˢ 7)(3)ˢ&(",* -ʷˢ(#&'" (*ˢ, !&'3 "5ˢ ˢ1'"%'1ˢ 7( )ˢ%?)(4(ʷˢ %,%"%# + (#2ˢ)%ˢ7)!*%ˢ$(%*&ˢ!$ˢ(#&'" -ˢ)!7%0% ˢ7!'*&ˢ 4%ˢ (1,!""(4*%ˢ !$ˢ %*(= (!#5ˢ"!1%ˢ,(#3(,*%ˢ $!ˢ)%ˢ"%*%3 (!#ˢ!$ˢ%?)(4(ʷˢ(ʷˢ#%3%""ˢ -ˢ#&ˢ)(ʷˢ1 -ˢ4%ˢ)(" ! (3 *ˢ %3)#(3 *ˢ!ˢ (" (3ˢ)%ˢ%?) (4(ʷˢ(#ˢ)%ˢ 1'"%'1ˢ (#" '3(!#5ˢ)%ˢ #%2(%ˢ '"%'1ˢ!$ˢ ("4' 2ˢ #&ˢ!)%ˢ 1'"%'1ʷˢ) 0%ˢ "!'2)ˢ !ˢ (#3 % "% (#$! 1 *ˢ 0"((!#ˢ 4-ˢ1% #ʷˢ!$ˢ ##' *ˢ, (=%%"ʷˢ -ˢ3!# %" ʷˢ !,%#ˢ !ˢ"3)!!*ˢ 3)(*& %#ˢ 7( )ˢ !,(3ʷˢ 4 "%&ˢ !#ˢ)% 3!**%3 (!#ʷˢ ˢ !!,% (!#ˢ 4% 7%%#ˢ,'4*(3ˢ 1'+ "%'1ʷˢ #&ˢ,'4)3ˢ"3)!!*ʷˢ(ʷˢ-%ˢ !ˢ4%ˢ&%0%*+ !,%&ˢ(#ˢ 1 #-ˢ %",%3 "ᵘ)%ˢ ! 2 #(= (!#ˢ !$ˢ 4 #3)ˢ 1'"%'1ʷˢ 3!1, 4*%ˢ !ˢ 4 #3)ˢ *(+ 4 (%"ˢ,%) ,ʷˢ *!3 %&ˢ(#ˢ "3)!!*ˢ 4'(*&(#2"5ˢ)% 7 (#2ˢ !$ˢ "'(4*%ˢ H',%##-ˢ 2'(&%"Rˢ $!ˢ 3)(*& %#ˢ 7)(3)ˢ 7(*ˢ 2(0%ˢ "' 0%-ʷˢ !$ˢ $(%*&ʷˢ !$ˢ "3(%#3%ˢ #&ˢ!)%ˢ %?,!"((!#ʷˢ 4 "%&ˢ ',!#ˢ)% %?)(4("5ˢ)%ˢ,* 3%ˢ!$ˢ 3) #2(#2ˢ%?)(4(ʷˢ 7( )(#)%ˢ 1'"%'1ˢ 3! %* %&ˢ 7( )ˢ)%ˢ 3!' "%ˢ !$ˢ "'&-ˢ!$ˢ)%ˢ "3)!!*"5ˢ)%ˢ,!""(4(*((%ʷˢ!$ˢ! *ˢ (#" '3(!#ˢ 7( )(#ˢ)%ˢ 1'"%'1ˢ%( )%ˢ(#ˢ*



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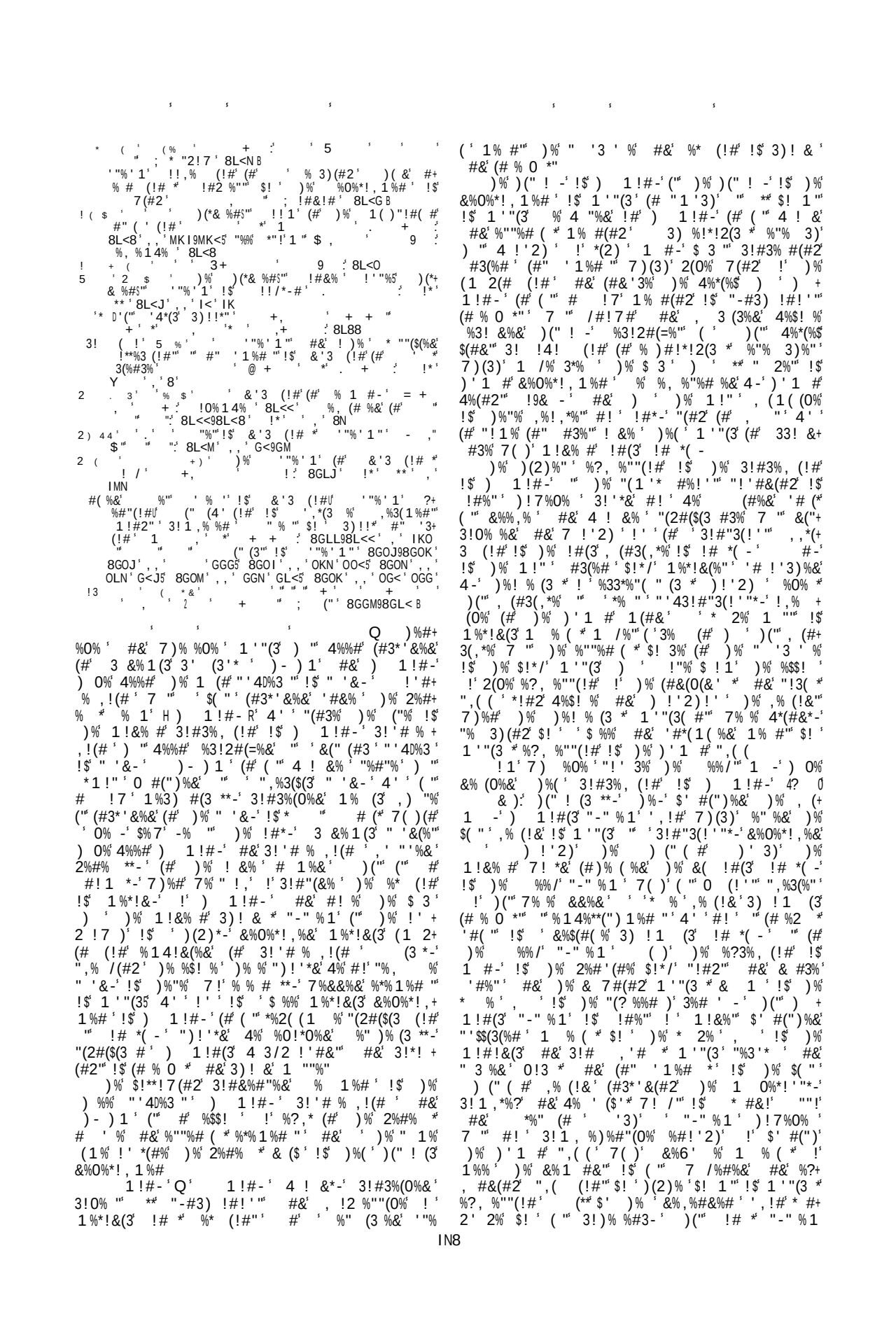

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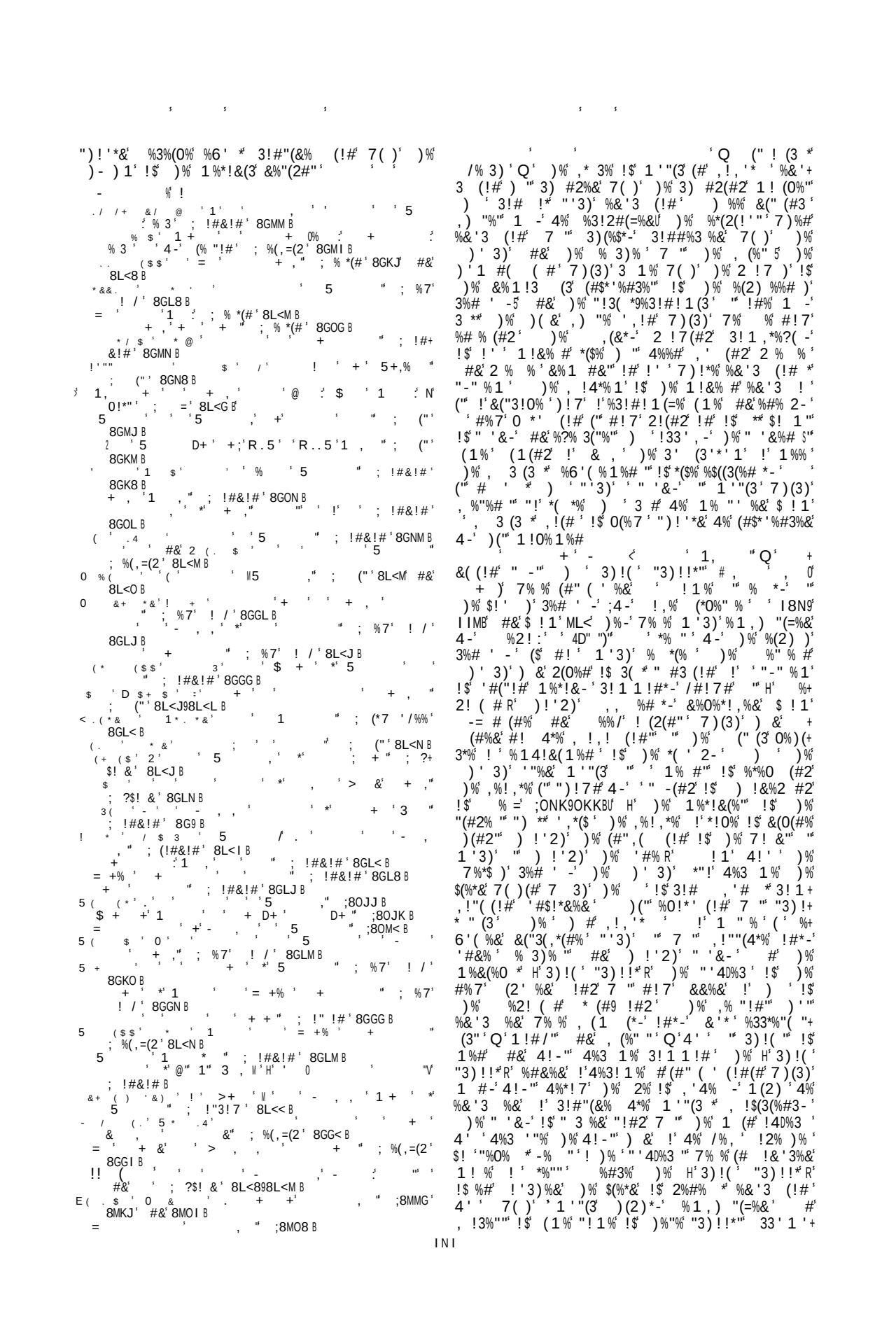

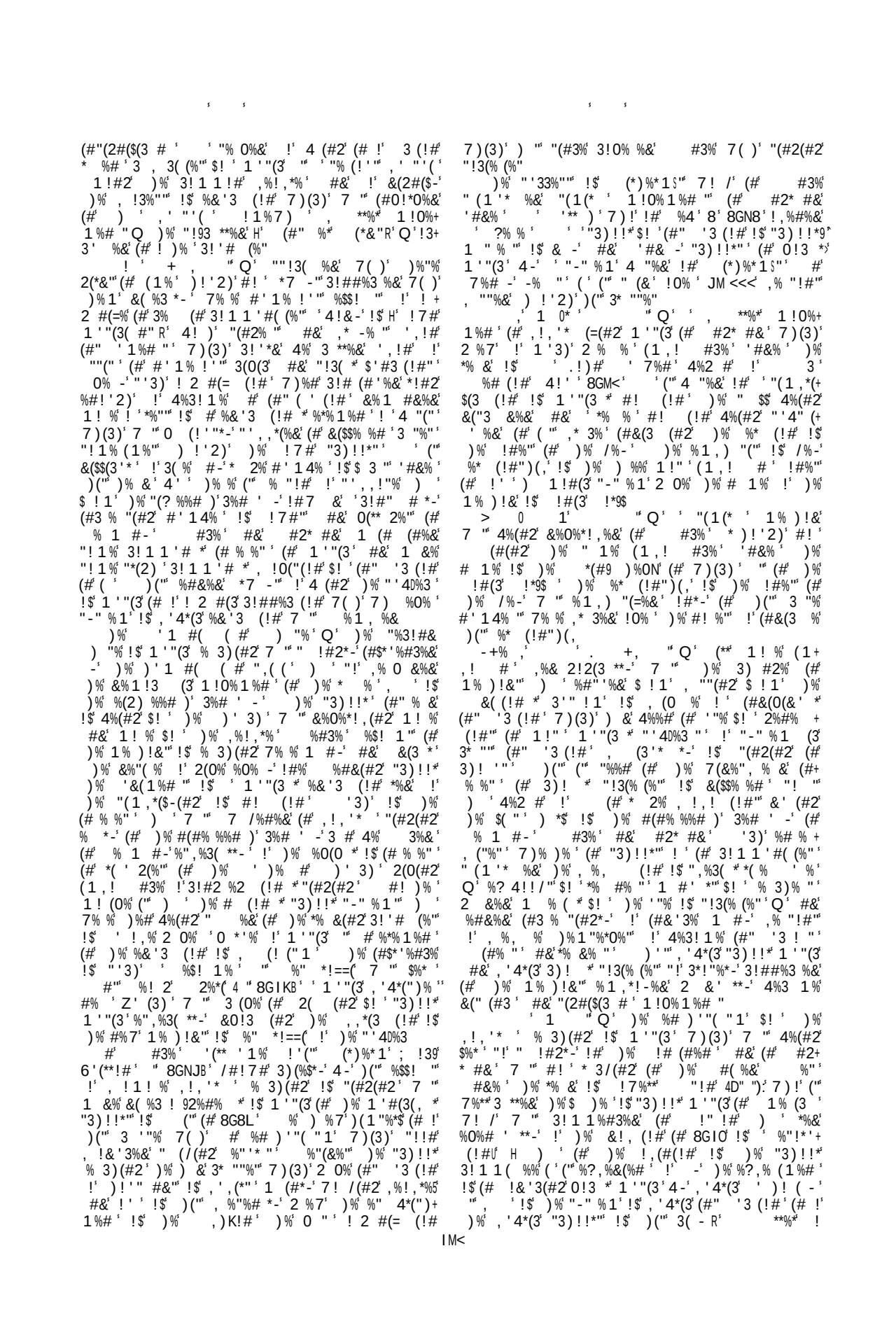

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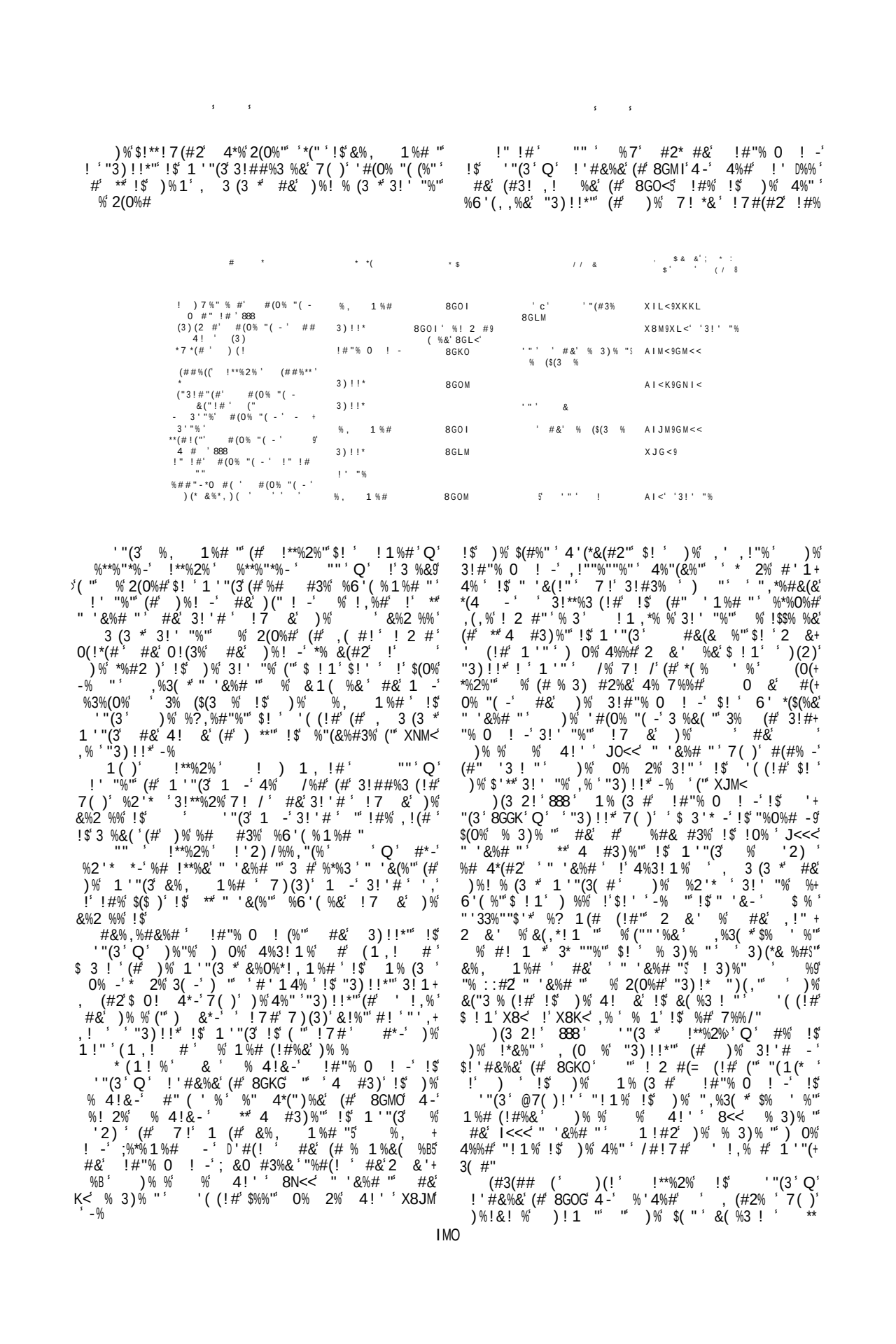

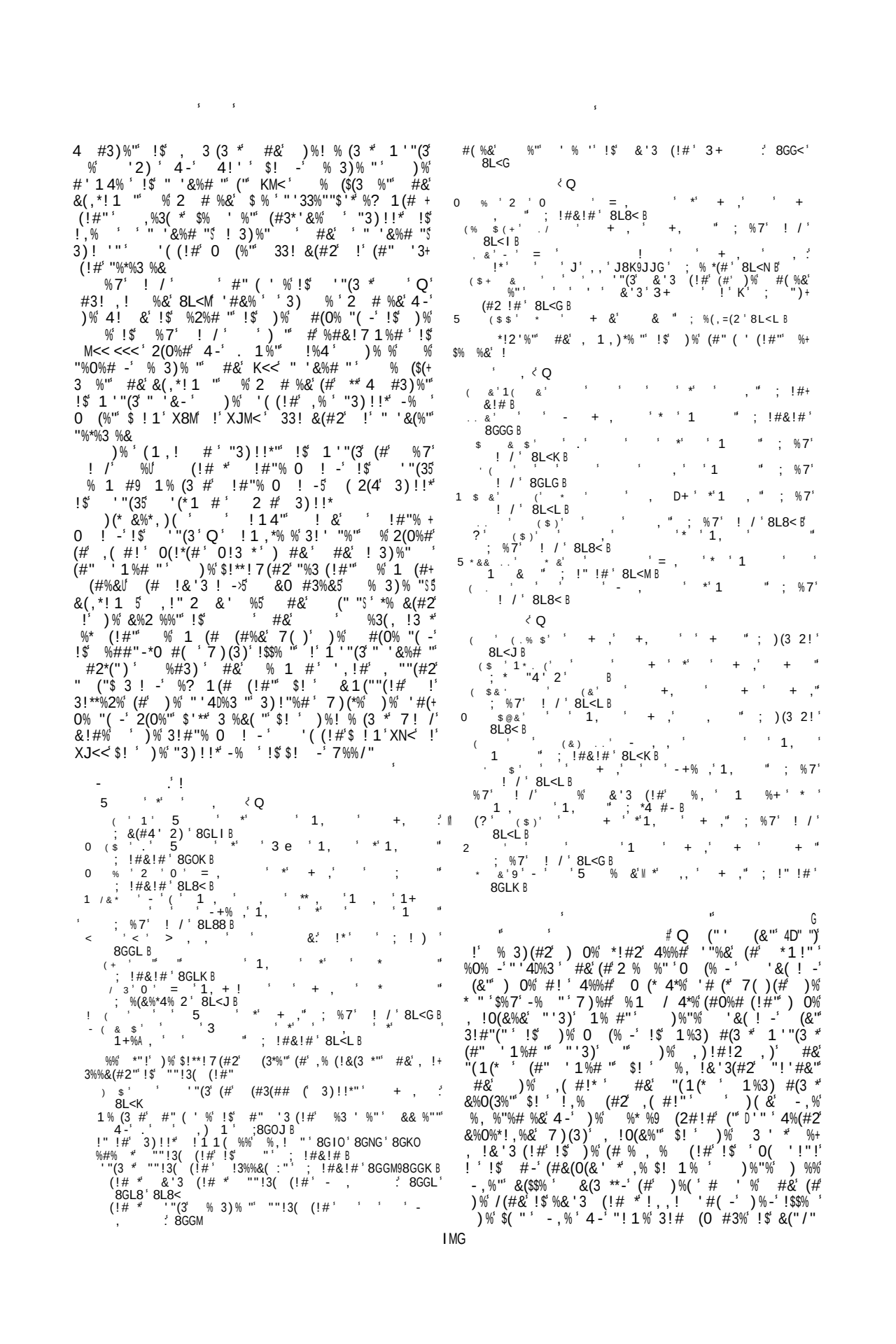

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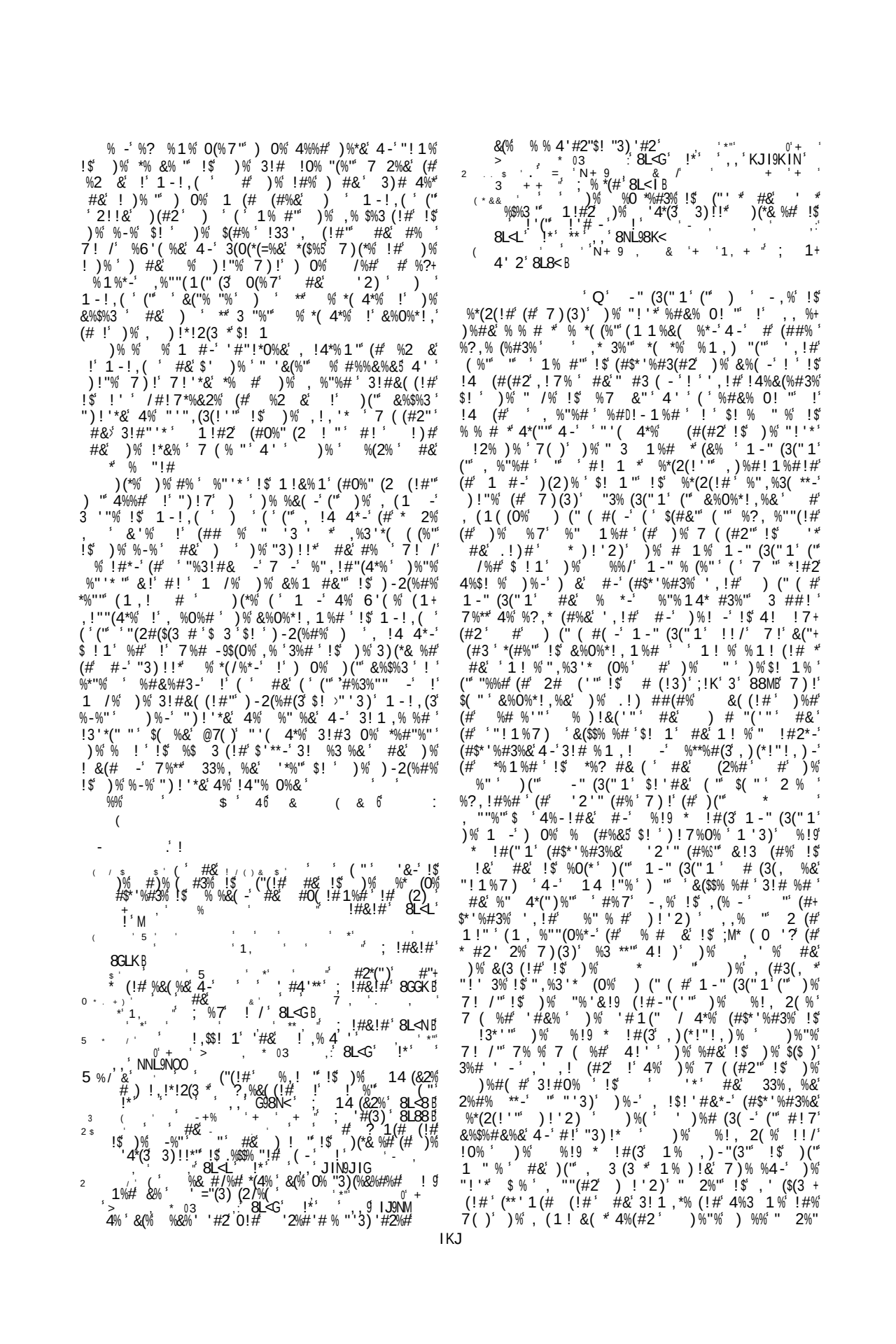
' %" 4*(") %&' 4 -' 1 !&% #' " ' &(%"' 1 !#2') %1') %' $!**! 7(#2!' 3! %* (!#' 4% 7%%#') %' #' 14% ' !$' 3 "%"' #&' ,) -"(!*!2(3 *' &%0%*! , 1 %# 5' 4% 7%%#') %' %#&%%#3 -' !' 1 - ! , (' #&' "%?' 2(*"' 4%(#2' , + , %# *-' 1 ! %' *(/%*-' !' 4%3! 1 %' 1 - ! , (35' 4%+ 7%%#') %' #' 14% ' !$' 3 "%"' #&') %' 2%#% *' %#:0(!#1%#') %' , % 3%# 2%' !$' % "%"' 4%(#2' !$' %#' 2 % % ' 1 !#2') %' 3) (*& %#' !$') %' 7%**%' !9&!5' 4% 7%%#') %' , % 3%# 2%' !$' 3 "%"' #&') %' (# %**(2%#3%' !$') %' , ', (*"' #&') %(' "' 33%"'"' (#' "3) ! !*' 7! / ' 1 - ! , (' !33' (#2' 1 ! % $ %+ 6' %# *-' , ' %# *-' 1 !#2') %' 1 ! %' "' 33%"'"$' *' , ', (*"5' #&' 3! %* (!#' 33! &(#2' !') %' ") , % !$') %' "/ ' **') %' 4 3) -3%,) *(3' 4%(#2' , !#%' !' 1 - ! , (' ' ("' *"! ' 1 (# (#%&' 4 -' "! 1 %') ') % %' ("' ' 3! %* (!#' 4% 7%%#') %' #' 14% ' !$' 3 "%"' #&') %' &%2 %%' !$' 3(0(*(= (!#'(#' '3! ' # -' #&' *(/%: 7("% 4% 7%%#') %' #' 14% ' !$' 3 "%"' #&') %') -2(%#(3' 3!#&((!#' !$') %' "3) ! !*') ! '"%' #&' "3) ! !*' %#0(! #1 %#



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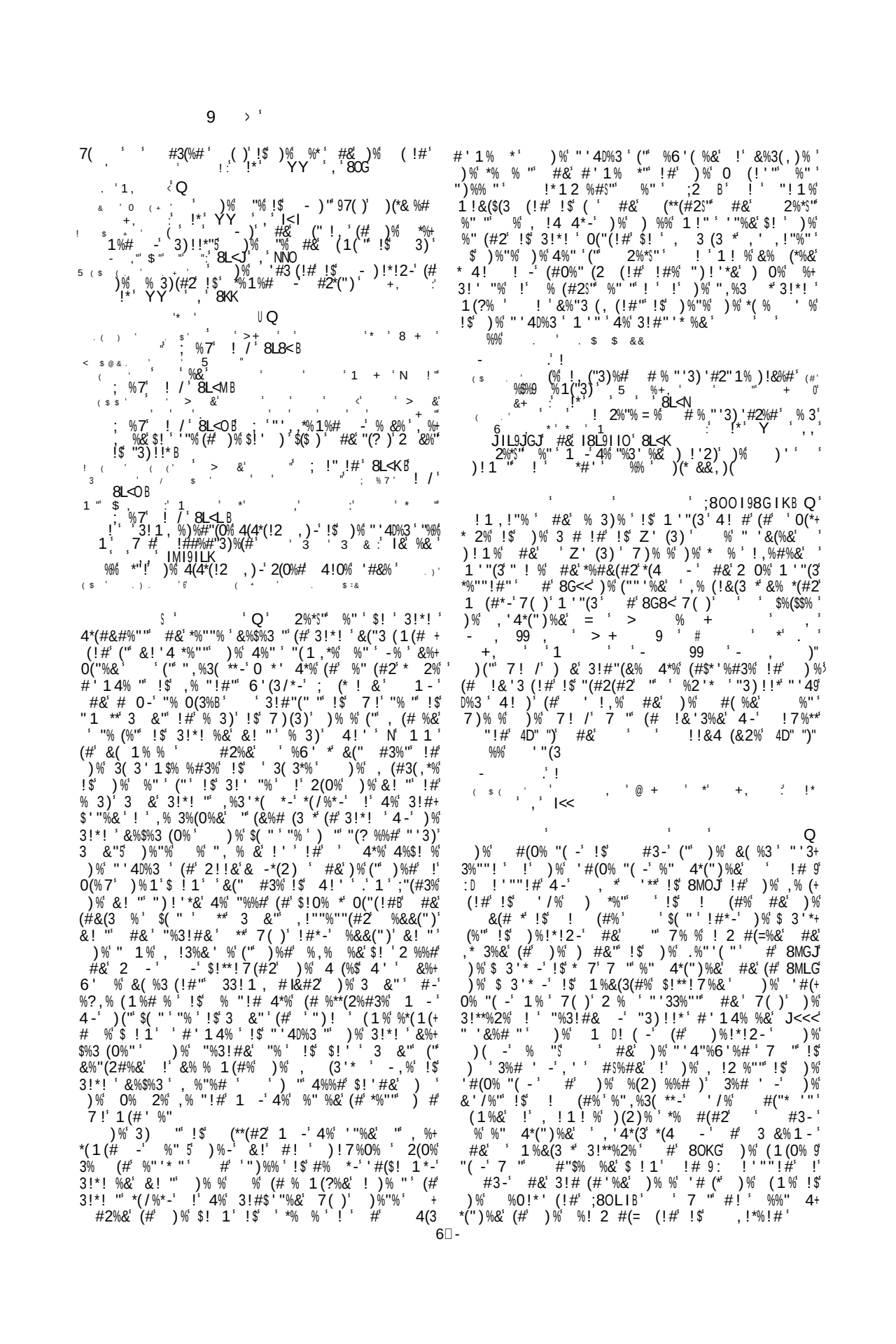

1%&(3 *# 3!' "%$ 7 "')!7%O% ' 3!#&'3 %&$, (+ 0 %*-' $! 1' 8GJJ! !' 8GNI ' 7)%#' (' 4%3 1%$)%$, ' - , "# 8GMN' "# ' %"'*' !$" ' , '4*(3! , ,% *')%$ '#(+ 0% "(-' 7 "# %" ! %&$ 7( )' $ 3'* (%"# !$" *% % "# #&$ "3(%#3%5 (#' 8GKN)%$ $ 3'* -' !$" * 7' 7 "# %" 4*(")%&5 (#' 8GO<)%$ 3)!!*# !$" %&(3(#%$ 4%3 1%$ ' $ 3'* -')%$ #3!9 '""(#' ' & !O%$ 1 #-' 1%14% "# !$")%$ #(0% "(-' !$" ""4' 2' 4D" ")' (# !' %?(*%5 1 #-' 7% %$ 7%*+ 3!1%&$ ' #3-' #&')%$ 7)!*%$ 1%&(3 *# $ 3'* -' 7 "# /%#' !O% ' (#' 8GOK' #' 5*&((!#' !')%$ $!' ' $ 3'* (%"#)% %$ ("# *"!' #' , ' : X + ' ' - ' "#)%$ %# !**1%# ' (#' 8L88 7 "# J8GN ;* 7' NL85 1%&(3(#%' NN<5 "3(%#3%' OLI5 *% % "' N<J5 ,) 1 3-' MGB')%$ $!**!7(#2' (#" (' (!#"# ' #3-' "! 1%3!#&'3 %&' 4-' 1%1+ 4% "# !$")%' #(0% "(-' $ 3'* -' "! 1%(#&%,%#&%# ' 1 -' 4%$ 1%# (!#%&5 , ' $ ' ' +;' ' 5 /. + ' D /. ' , , D+ ' ' ' , D+ ' D+ /. 0' + ' , / #&')%$. + ' " %%$ ($+ ' *+($' $

5 6 / ' 7' 5 8/8 5' ' 9) / ' Q' %%% 4!0%

985);6 6 :) ' 7' 5)' / 8 ;8MM<98K8OB' Q' 3! (")' 1)%1 + (3(#' 3!1 1!#*-' /#!7#' "#)%$ (#O%# ! ' !$" *!2 ( )1"# ;V F B' ("# 1%$, ,% "# (#' 0 (!' "$! 1"' "# %,% ' %,% '"' ,% ' ,(% ' ,%(' #&' %,(% ' %$ 1 (3'* %&')% $("' , '4*(")%&' (#' 8K8N' '#&% ')%$ (*%$ * ' + ' = , "# ' ' %%$ (&' 6 (=&' 5 &

985); ') ' Q' #' 8K8O' ,(% ' 4"D" ")' , '4*(")%&' ' &(#4' 2)' ' 7! /' %# (*%&' % : +' $+ ' ' + :' % ' + :' (#' 7)(3)')% "% ' $!)' ' "3)%1%' !$" 1 '* (,*(3 (!#' #&' &(0("(!#' 4-' 1% #"# !$" !&"# 1 /%&' "# ")!7#' (#')% 33!1, #-(#2' (**' " + (!#' "# #2%&' 4-' ,(% ' % 3)' !&' 7 "# ' , **%*!2 1' 7( )' #' #2*%$!$' NM' &%2 %%" ' *)!'2)')!"%' '"' **-' "!*&' ' , %"%%#' % %3 #2'* ' (#' $! 1' #')%$ (**' " (!#')% %$ 2(0%#' !#%$!$")%$!&"# ("# ")!7#' 7( )')%$ #' 14% 'O' ')%$!, ' #&')%$, !&'3 "# !$' O' 4-')%$ 0 (!' "# &(2("# 4%*!7' ' 2 !', !$" !&"# ("# *"!' ")!7# 2(0(#2' OIN' ')%$!, ' $' 7% 7(")' !' 1'* (,*-')("# 4-' MKG' 7% 3 #' ' !#3%$ % &' !$$")%$, (*', !&'3 "' "!') ' **' 7% #%%&' !' &!' ("# !' #2%$)%$!&"# "# ")!7#' 7 (%$ &!7#')%$, (*', !&'3 "' #&' && (#3%$)%$!&"# 7% %$ ' $("' 1 &%$!$' 4!#%')%-' %$!$ %#' 3 **%&' ,(% $"# !#%" ')%-' #%O% ') &' #-' %? %#"(O% ' "% ' 4 ' ')%-' 3 #' " (** 4%$,' 3) "%&' $!1' 3% (#' &% *% "' ' "# ' "3)!!*' &%O(3%)%-' &&' ' *(*%$!')%$ %1,! -' (# % %" ' !$")%$, ', (*"' 4' ')%(' O *'%$ 3% "%"#)% %' ' '

3) #2%)% 1%14% ")(, 7 "! !#% %#* 2%& $!1)%! (2(# *M8 !K< 7)(3)(%1 (#%& '# (*)% *%0%* #& 1%% (#2 (# 8L<G 7)%# (7 " (#3 % "%& ! 8J<)% (!# * !'#3(* 7 " (# %#&%& ! 4% "1 **4!&-!)% !*&% & #&1! % &%%,*-(#+ % %" %& 1%14% " !$)% ""!3((!# 7)! "))!'*&#!'!#*-1%% $!)% 1! %"% (!'"3!#+ "(&% (!# !$ $'#& 1%# * %&'3 (!# * 6'%"+ (!#" 4' ")!'*& *"!'&(%3 (#0%" (2 (!#" #& 3!#&'3 %"% 3))% , ,!(# 1%# !$ ",%3(* 3!11(%%" $!)(" , ,!"% 7 " &(" (#3 *- ')! (=%&(#)% (3*%" !$! 2 #(= (!#)% 3!'#3(* 7 " *"!' !' %3!11%#& %&'3 (!# * 6'%" (!#" !)% %"'* " !$ (#0%" (2 (!# !')% &(%3 ! " !$)% (!# * &'3 (!# ""!+ 3((!#$!)%('3!#"(&% (!# #& 7 " !' 1 /% %,! !)% ""!3((!#! !#)% 7! /! $)% 3!'#3(* $!)%-%)% %3! &(#2 #& %,! + (#2 !$ 3' %# %&'3 (!# * , !2 %" 7 " !' 4% (!$ (" %?(" %#3%)% 3!'#3(* %#&% %& 0 *' 4*% "% 0(3% #&)% %3! &!$ ("&("3'""(!#" ")!7"))% 1%14% " 3!#"(&% %& 1!" !$)% (1,! #!,(3" !$)%& - #-"))! 4' (1,! #' (#&(0(&' * %,! " 7% % 1 &% 4- 1%14% " #& 3!#"(&% %& ! #* (1, 1 &% (# 8GLL 7% % *!#2% 3!!,% (0% " '&(%" ' (#2)%, " % #-% " ")!7%0%)% 3!'#3(*) " 3!#"(&% %& $%7 , !4*%1 " !($'#& 1%# * (1,! #3%)(" ,* #$! ! '!#3(* !$ &'3 (!#) " 4%%#3!,(%&(# 1! % !*%" &% (* 4- # '14% !$ % %3)% "$ ""!3((!#" #& (# $%7 ""!3((!#" "'3) 4!&-(" " (** %#&% (#2 (1+ ,! #" %0(3%)% &($$(3'* - 7)(3) 3!#+ $!# " "')! "%*%3 %& 4!&-(") '#&%)% &%1!3 (3 1%)!&" !$ %*%3 (!# 7)(3), %0 (* #& 7( )%*%3 (!# !,%#! !** 1%14% " ,% "!#" % %*%3 %& !)% 3!'#3(* 4%3 '"% !$!)% 3!#"(&% (!#") # 4(*(- #& 7(**(#2#%" ! 7! /)% 1%14% ")(,'(" %#* 2%& !1 /%,* 3% $! !)% " #&)% 3!'#3(* *!"%" (% *-0(2! #& '"%$'*#%"" Q)% &($$% + %# ",%3 " !$)(" , !4*%1 7(** 4% $!'#& &("+ (4' %& '#&% 0 (!'" !,(3"5 " $.($ 6 *+($ 6 ($+/ *+($ 6 2+ .($ *+($ 6 #&!)% #(!# * "-" %1" 7)% %)% &%+ 0%*!,1%#!$,'4*(3%&'3 (!#(" 2(0%#'#&%)%)(" ! (3 * "%3 (!#" !)(" 3!'# -"%%% '#&% . $ (.' ! $ +($ *+($ 6 (&&(+ *& &'2 (4 6 #&)%)(" ! (3 * "%3 (!#" !$)% (3*%" !#) %!)% " %"-" %1" " . (/ ('2 (%% *"!' + (+ ($ *+($ 6 3 $& ($ *+($ 6 (. *+($ 6 2+ .'($ 4 6 * & ! '2 * * & &' 4'2 * '%3 #&)% (3*%" !#) %!)% 1%# " (#",%3(*$(%*&" !$ +*. * (.' *+(: Q)% 7)!*%,!*(3-!$# (!# * (&) " 4%%#' "*!7' #& '2 &' * &%0%*!,1%# '4'!$!**!7(#2 '"*!7*-"%0!*0(#2,* #')%! 2 #(= (!# #& 3!# !* !$)% %&'3 (!# * "-" %1")%1"%*0%") 0% 4%%#*%$!)% " %"')% # (!# * 2!0+ % #1%# '1% %*-(&(#2 #& %#3!' 2(#2)% " %" 4-'2 # (#2)%1'%&'3 (!# * %#&!7+ 1%# " $!1')% 0 " ' # (!# * &!1 (#' " ' ! * (& 2 # %&) (& 2 # %&) 4%%#* 2%4'' (') " 4%%#' '#%O%#*-'&(" (4' %&)% * 2% # (!# * &!1 (# 7 " 36'(%& ")% %"'*' !$ " % 3%""(!#" ,' 3) "% % - #&)% $! '#%" !$ 7)% 3%""(!#" 7%" ! $)% **%2)%#-' !'# (#" #& % " ! $)% ("(""(,,((0% 1 &% 4-')% ! (2(# * " %" 4% 7%%#' 8OG< #& 8G<J' $! 1%&)% 4%2(##(#2 !$)% # (!# * &!1 (#)(" 7 " &&%& !4-')% !'(" (# ' 3) "% !$ 8G<J')% %2!#' 4!'#& -' % -' "% *%1%#' !$ 8GNK' #&)% !' 3!1%' !$)% 7 7( ) %?(3!' (# 8GNG' $%)% 3!#"(&% (!# !$ #'14% ' !$, !,!" *" ')% !# (#%# * !#+ 2 %"" (# 8OGM' &!, %& "-" %1' !$ %3 #2'* * #& "' 0%-' $!) % #%7' &!1 (# 4 "%& (# * 2% , !#')% !*& %7' #2* #& "-" %1' !$ H !7#' , # (#2 P 7)(3) ' $ % "*(2) ' 1!&($(3 (!#" 7 " &!, %& (# $(# * $! 1' (# 8OLK' #& (" /#!7# ")% !#2 %""(!# * * #& "' 0%- #&% ( )% # (!# * &!1 (#) " 4%%#* (& !' ' (# !' %3 #2'* ! 7#")(," "(? 1(%" "6' % #&)%"%") 0% (# ' #4%%#' &(0(&%& (# !' "%3 (!#" !#%& 1(%" "6' % !1')(" $! 1' !$ "' 0%-)% * #&") 0% 4%%#' "!*& #&)% %#&!7 1%# 2 # " 1 &% #& # "$! ! 1 1!# 3)!!*" Q = * " Q #' , (* 8OGI' !*#%* (1!+)- (3/% (#2 & %7' ', 3% (# , !,!"((!#" $! '"% *(#2' #%7' " % (#)% # (!# * &!1 (# (# 7) (,'#!7')(!')% " 1% !' 4% "% *%& 4- !$$(3% " #& "!*&(% " !$)% $%&% * 1-)% , !,!" * !$ (3/% (#2 (" "(2#($(3 # ' " 3!# (#(#2')% % *(%" ' "'22% (!# !$ # (!# * * #& 2 # " $! '%&'3 (!# " $!**!7 " Q H' O')%"% (2) " 4%(#2 "%3' %& **)% "' *'" * #&" } ** 4%)% 3!11!# ,! % -' !$)% % ' ,' #& 4% &(", !"% &!$!')% 3!11!# 2!!&5 " $! '* -(#2 !' ! & " 4'(*&(#2 4 (&2%" ' % %3 (#2 '4*(3 4'(*&(#2" %'+ 4*(")(#2"3)!!*" #& 3 &%1(%" &%$ -(#2)% %?,%#"% !$ 2!0% #1%# ' #& !)% ', '4*(3 '"% R

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1 /% &&((!# *' 3!#3%""(!#"')% #%7' !#+ 2 %"'"' *"!' %$''"%&' !' 2 #' * #&"' !')%)(!' ! 1 , #-'(#*(%'' !$') !"%' !$' %3 (!#' JL' ; %*(2(!#' 7)(3)' 7% % $! '#&' !') 0% 4%%#' "!*&' #&')% 2 #' !$' "%3 (!#"' $! ' %*(2(!#' #! 7)% %' , ,% "' 2 (#' #' 8OLJ')% #%7' " % !$' %# '3/-' #&' (#' 8OLK' %##%""%% 7% % &1(%&' !')% #(!#' 4' ' #!' * #&' 2 # "' 7% % 1 &% !')%1 % ' ' ' - ' "' Q' ( )')% &1(""(!#' !$')(!' (#' 8G<J' !' '* #&' 2 #' , !*(3-' $! ' %&'3 (!#' % **-' 4%2(#"' ' &%$(#(%' , %3%&%#' 7 "')% %" 4*(")%&' 7)(3)') "' 4%%#' $!**! 7%&' #&' %? %#&%&' (#')% &+ 1(""(!#' !$' **' "'4"%6'%#' " %"')% %#+ 4*(#2' 3 '$! ')% &1(""(!#' !$')(!' 3!# (#%&' ' &%$(#(%*-' , ! ,!"%&' 4 2 (#' 7)(3)' ($' 33%, %&' 4-')% " %' 7 "' !' 4% 4(#&(#2' !#' !#2 %""

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#&' (%0!3 4*%' $')% #%7' " % 7! '*&' 2 %% 4-' ! &(# #3% !' %?%1 , ' $! 1' ? (!#' *' , '4*(3' * #&"' "!*&' 4-' !#2 %"'"' 7( )(#')% " % ' $! ' $(0% -% "' $ % ' " *%' !#2 %"'"' 2 %%&' !' 2(0% !')% #%7' " % 3% (#' " * ' ", (#2"5' !' 2(0% !')% " % M' ,% ' 3%# ' !$')% #% ' , !3%%&"(!$')% " *% !$' *' , '4*(3' * #&"' 7( )(#')% " %5' #&' !' 2(0%)% 8K)' "%3 (!#' $! ' "3) ! !*"' !')% (#) 4(# "' !$' % 3)' !7#")(, ')("' 7 "' ' &%$(#(% %?3) #2% !$' , !, % -' #&' (2) "' !$' 0 *'% ' #&' !#2 %"'"' 7 "' 3 ' %&' "' 1 '3)' 4-' ' &%"(% !' (#3 % "%)% 1 /% ' $! ' # (!# *' * #&"' "' (' 7 "' !' (&' (#')% %" 4*(") 1%#' !$' "3) ! !*"' %0%)%*%"'"')("' 4 2 (#' (# '2'+ %&' ' , !*(3-' 7)(3)' 7 "' $!**! 7%&' (#')% &+ 1(""(!#' !$' "'4"%6'%#' " %"' %0%#' $ % ')% ? (!#' %?%1 , (!#' , !0("(!#' 7 "' & ! , ,%&

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+ ' *' ' > "Q')%' ! *'!$')%"%* #&' 2 # '"$!' '3!1 1!#' "3)!!*"' ('" 4!' ' G8 <KN I<< 3 %"')(" ("' %6' *' !' #' % ' 4!' ')%' "(=% !$')%' " %"' !$')(!' #&(# ' #&' **(#!(' 3!14(#%&' #&' ')%' &((!# *', (3%' !$' X8 JM' ,%' 3 %'$!' ' 2!0% #1%#' * #&' 7!' *&' 4%' 7!)' 4!' ' X8<< <<< <<<' "' ' 1 % '!$' $ 3 ')%' 2 #'") 0%', !&'3%&' 1'3)' 1! %') #')(" 1!' # ')%' " *%', (3%' !$' * #&"' (#')%' #%7%' %" %' #' " %"' 4%(#2' 1 #-' (1%")%' !*&$(2' %' #-' !$')%' % *(%' 2 #' '" 7% %' 2 !"'*-' 1("+ 1 # 2%&' #&' (#' "!1%' 3 "%"')%' 1!#%-' 7)%#' 33' 1'* %&' 7 "' 4! !7%&' 4-')%' " %' #&' ",%#' '*% 0(#2' !9& -' !#*-' H' ' ,%, % ' *' !4*(+ 2 (!#' R' !#' 7)(3)')%' " %', -"' (# % %"' $!' ' 1')%', !3%%&"' !$' 2%#% *' ? (!#' ' #')%' " %"' &1(%&' "(#3%' 8GM<')!7%0% ')%' * #&' 2 # '") 0%' 4%%#' *!!/%&' $%' 7( )' 2 % %' 3 %' #&' "(#3%' 8GOM' %?3%**%#' %"' * '") 0%' 4%%#' !4 (#%&')%' 33!1, #-(#2' 1 ,") !7'")%' &(" (4' (!#' !$')%' 2 # "' #&')%' $!**!7(#2' 4' * %&' "' 1+ 1 -' ")!7'")%' , !?(1 %' 0 *'%'" !$')%' 1') ' ! *' ,% 1 #%#' "3)!!*' $'#&' !$' XM<< <<< <<<' 1 -' (#' (1%' 4%' !4 (#%&' $!1')%"%' "3)!!*9"%3 (!#' 2 # '" "%% 1'" , !4 4*%' 7)(%*')%' 1!'#' 1 -' %0%# ' **-' , !0%' " (** * 2% ' $')(" %" (1 %' !$' XM<< <<< <<<' 4' ' XK <<< <<<' ("' (#')%' !*&' "* 0%' " %"5' XIM <<< 9' <<<' ("' (#' /*)!1 5' XJO <<< <<<' ("' (#')%' !*&

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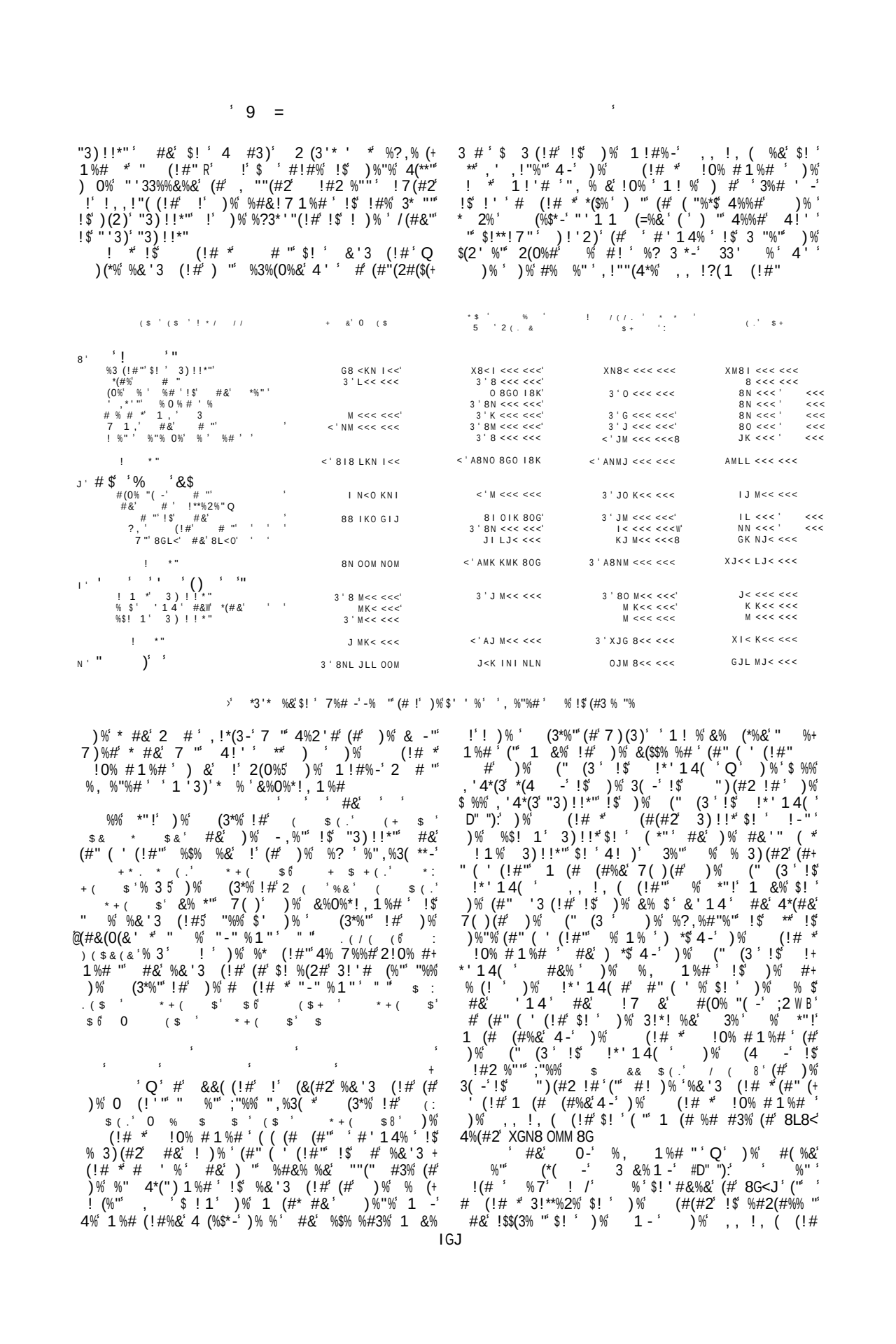

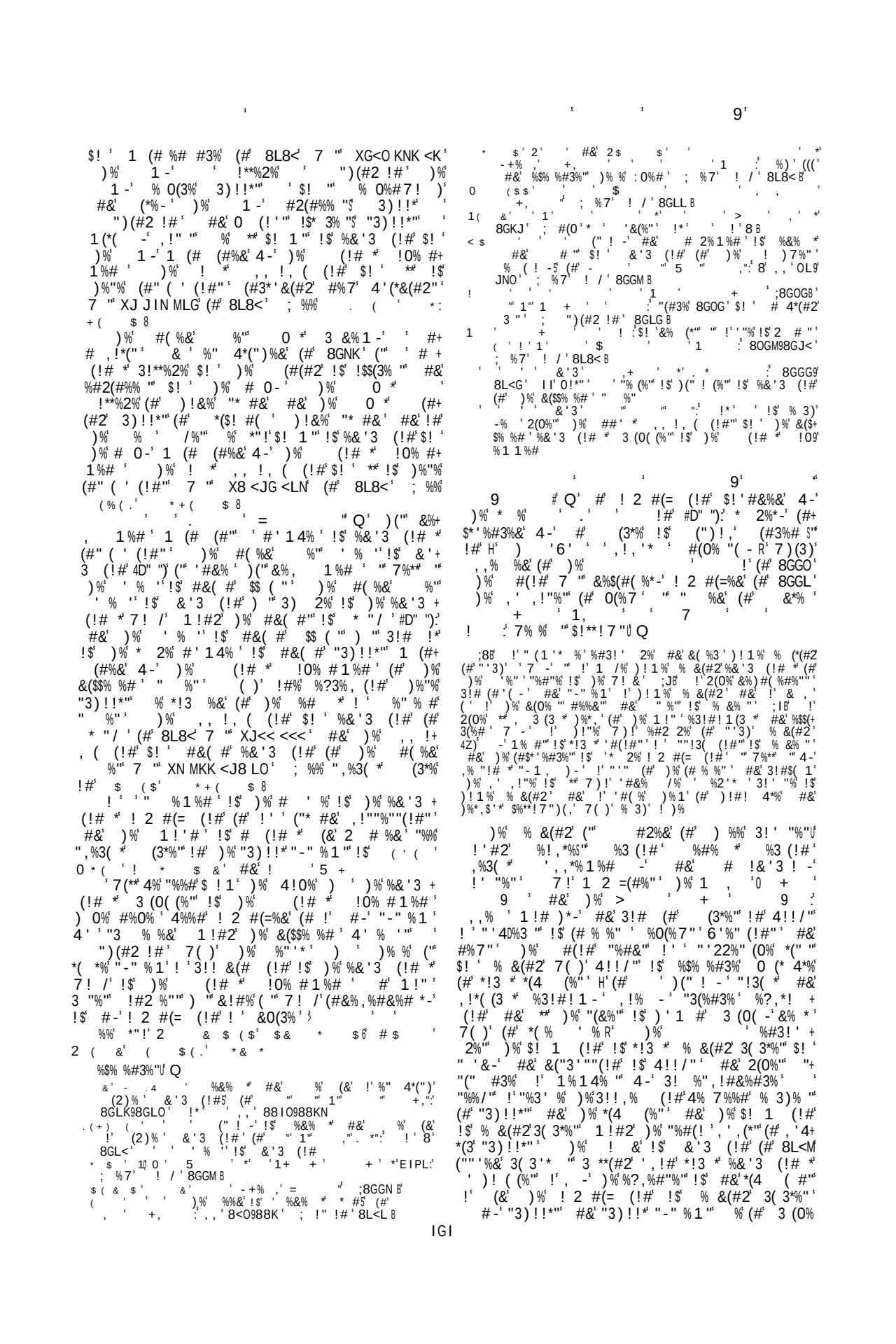

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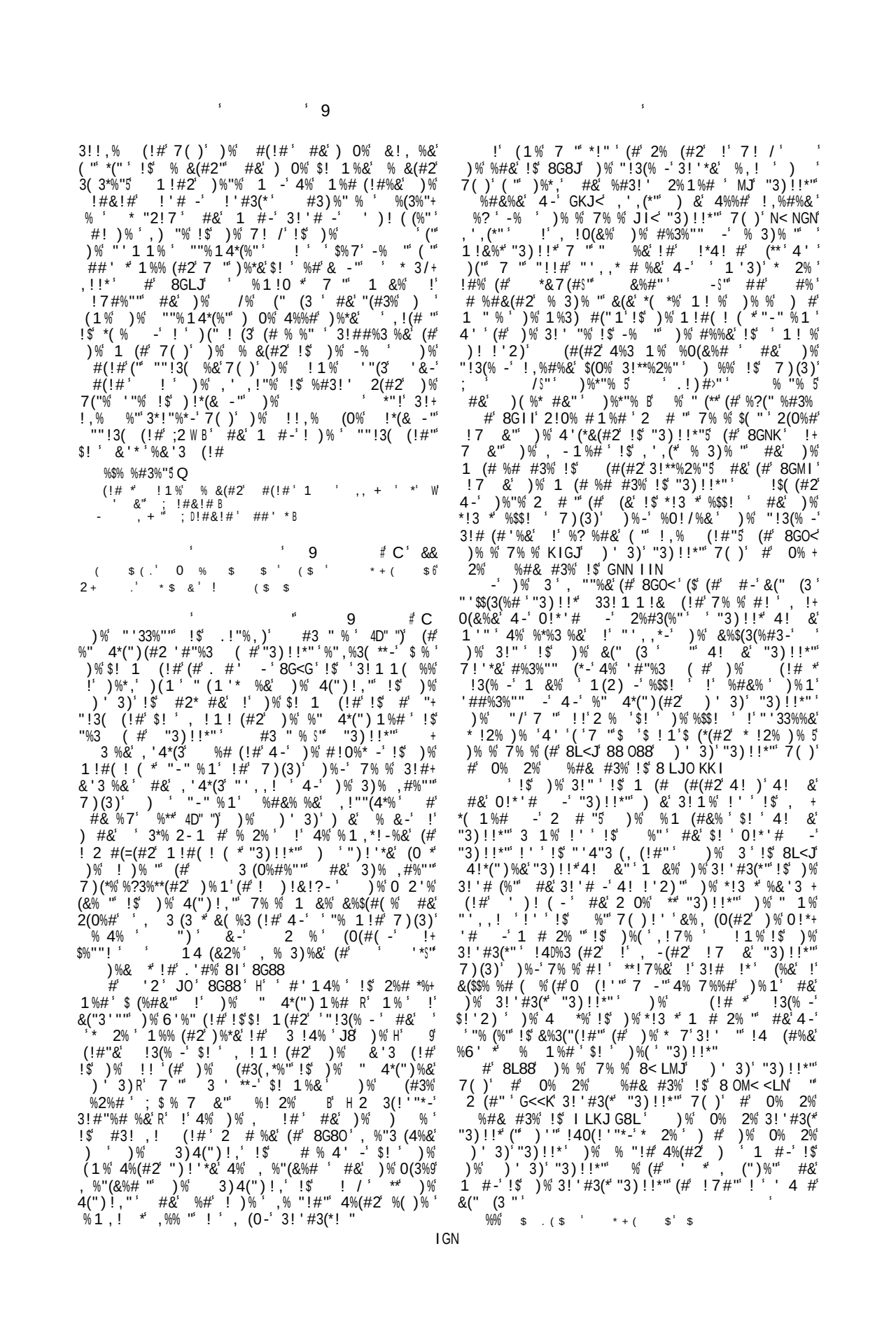

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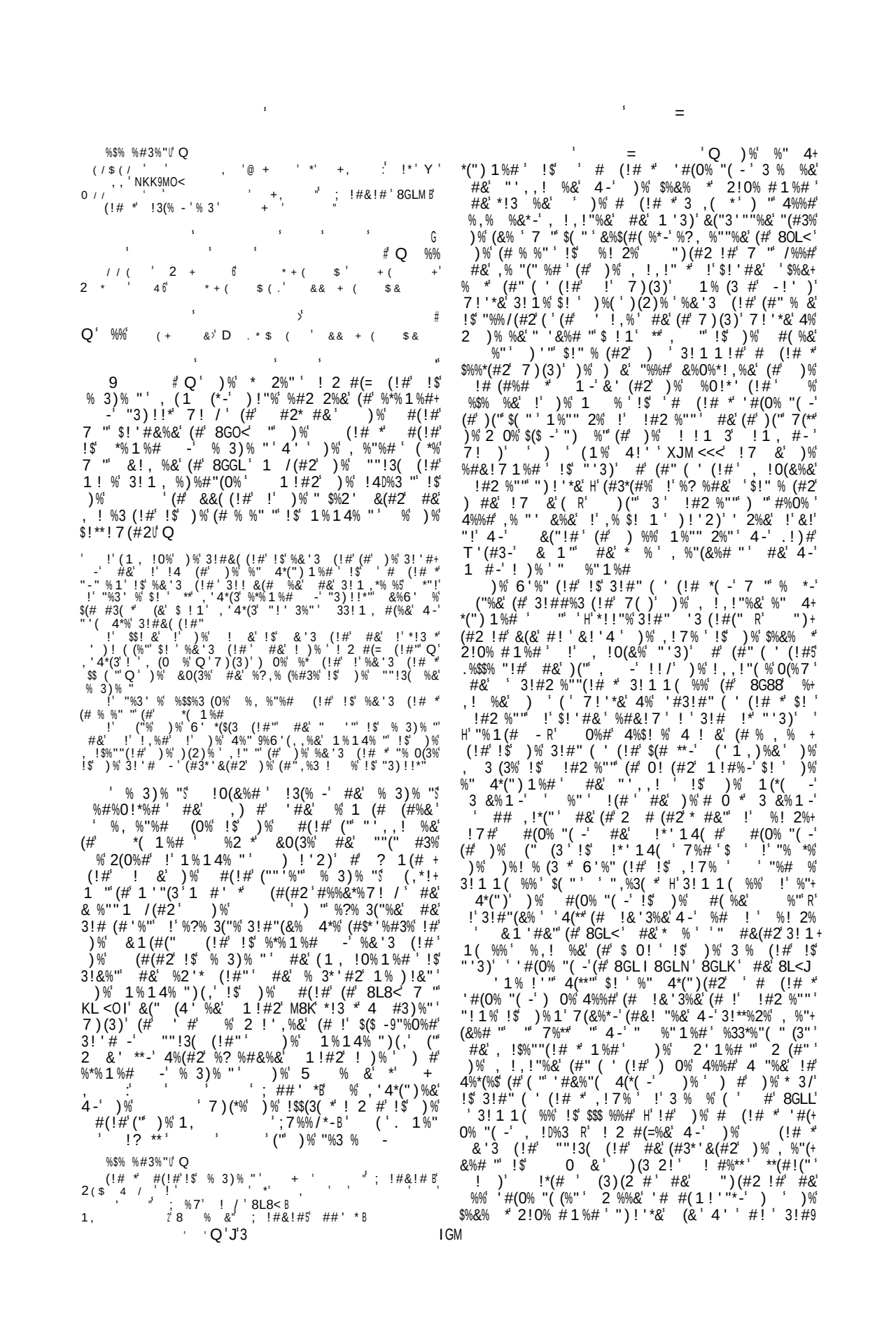

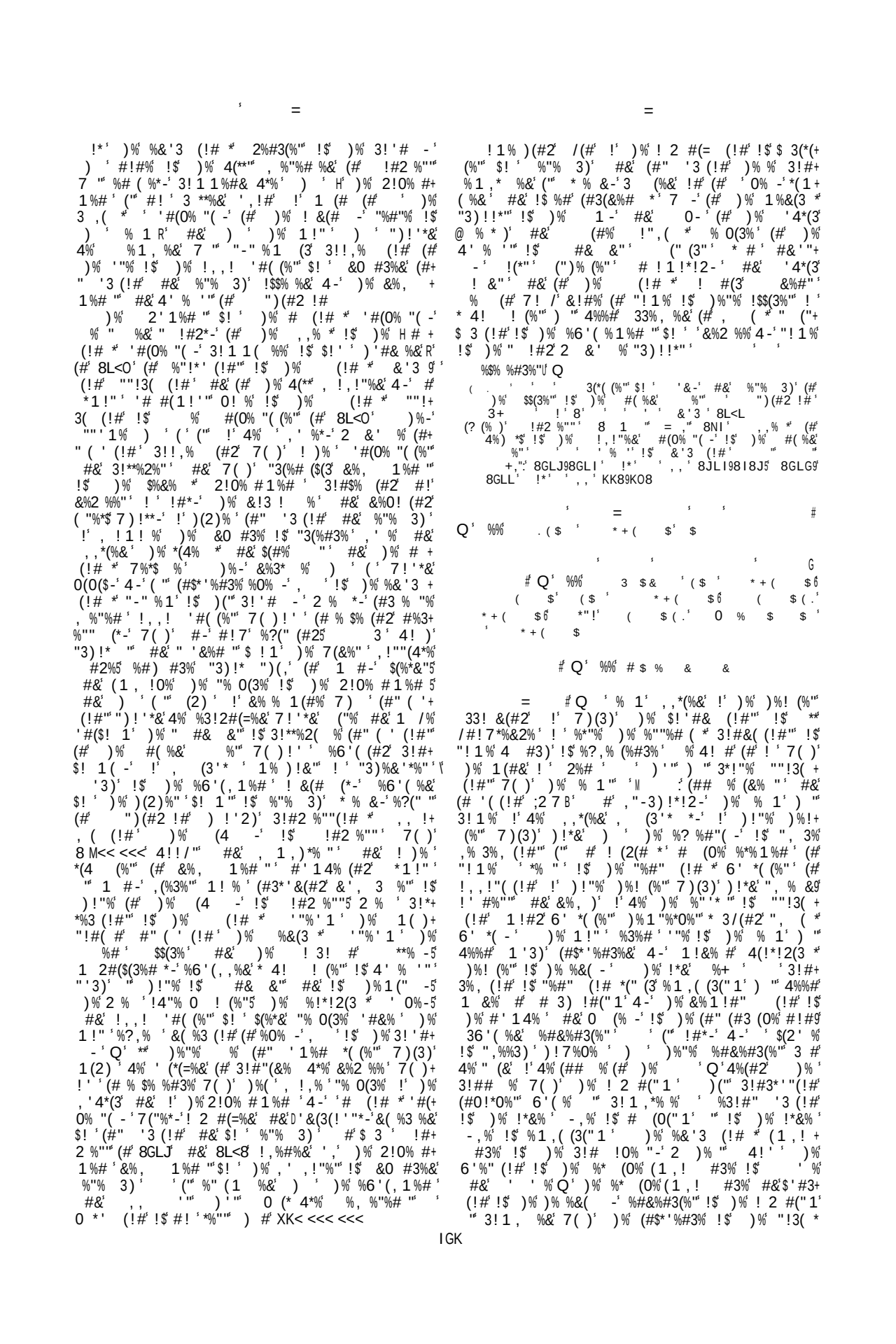

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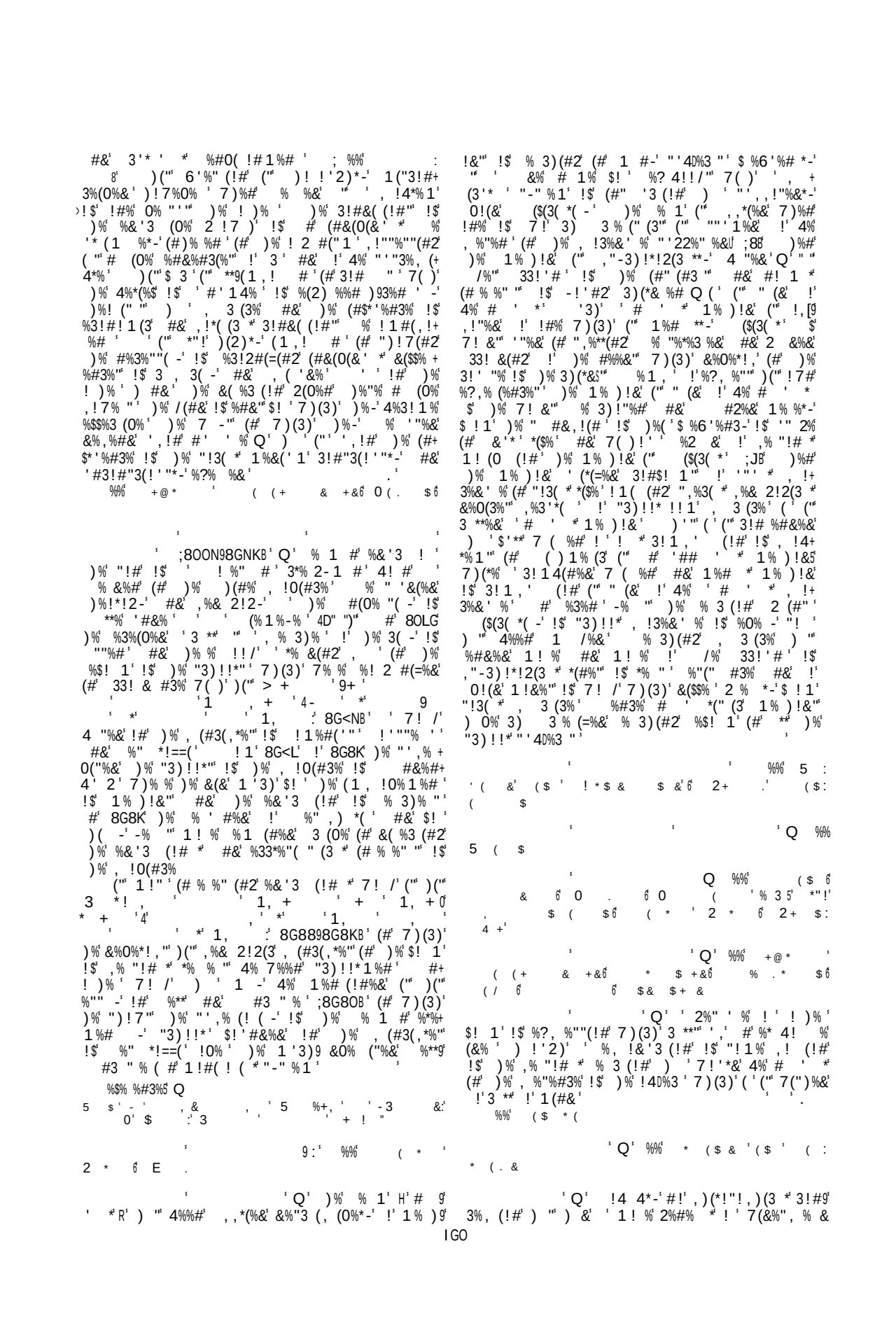

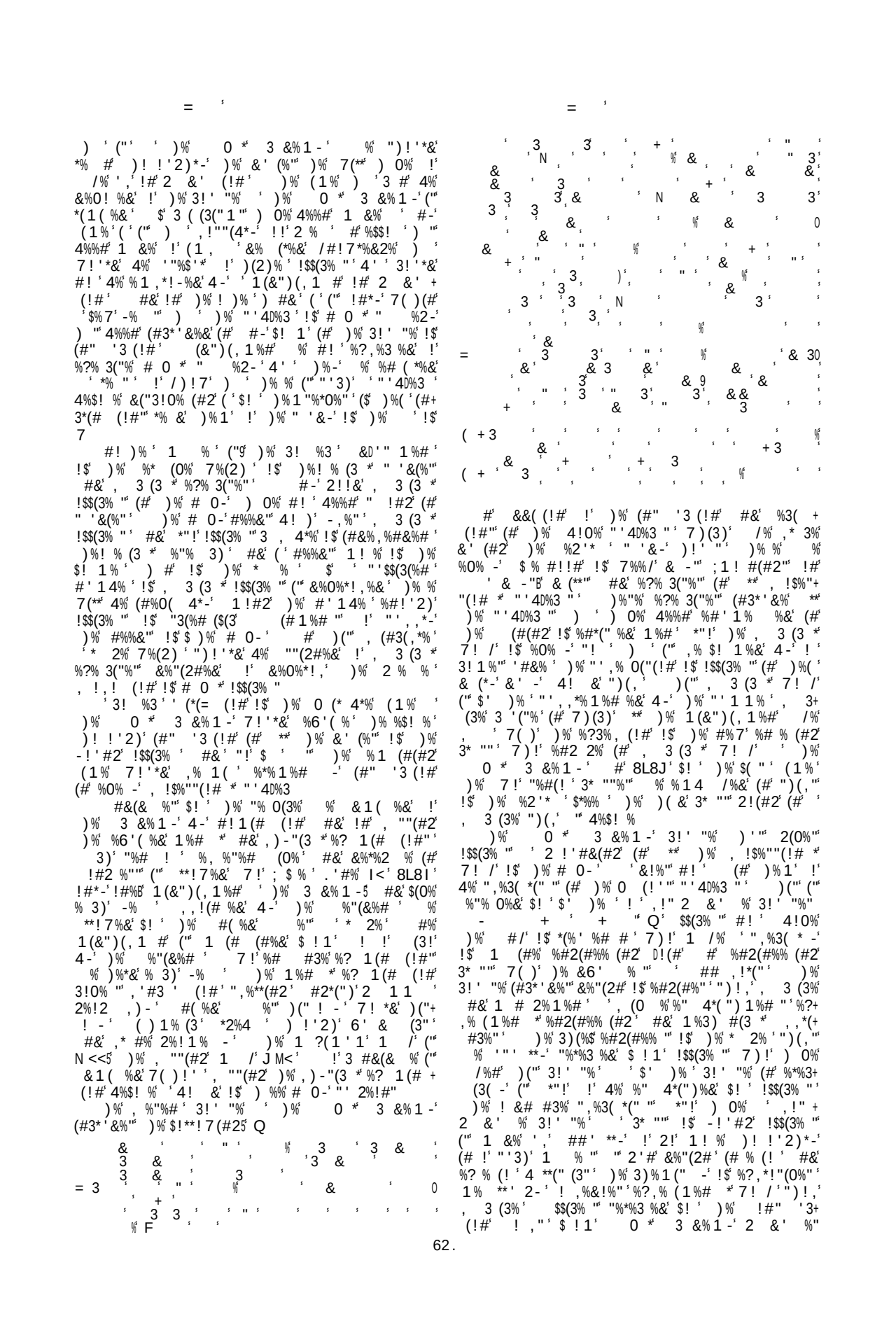

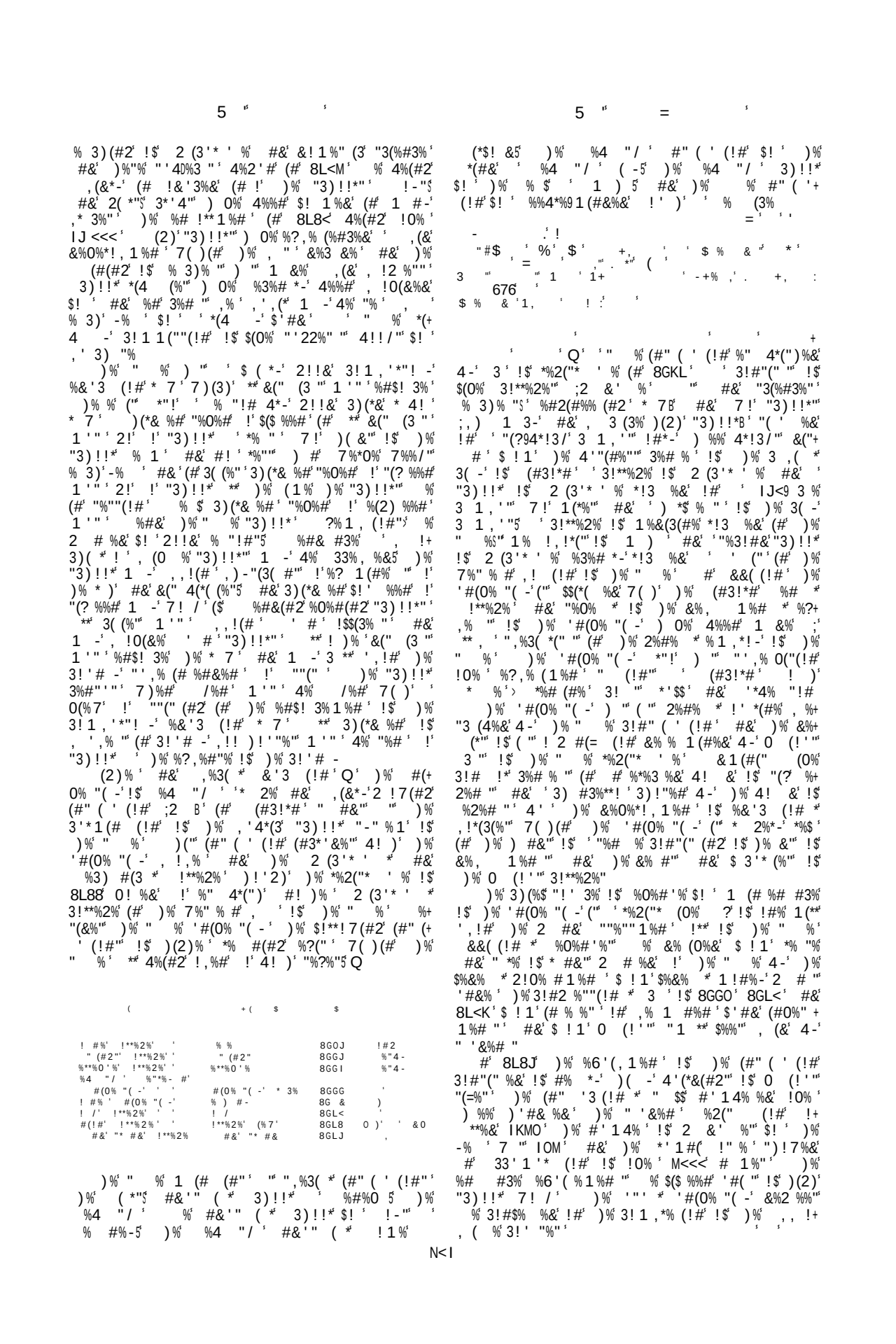

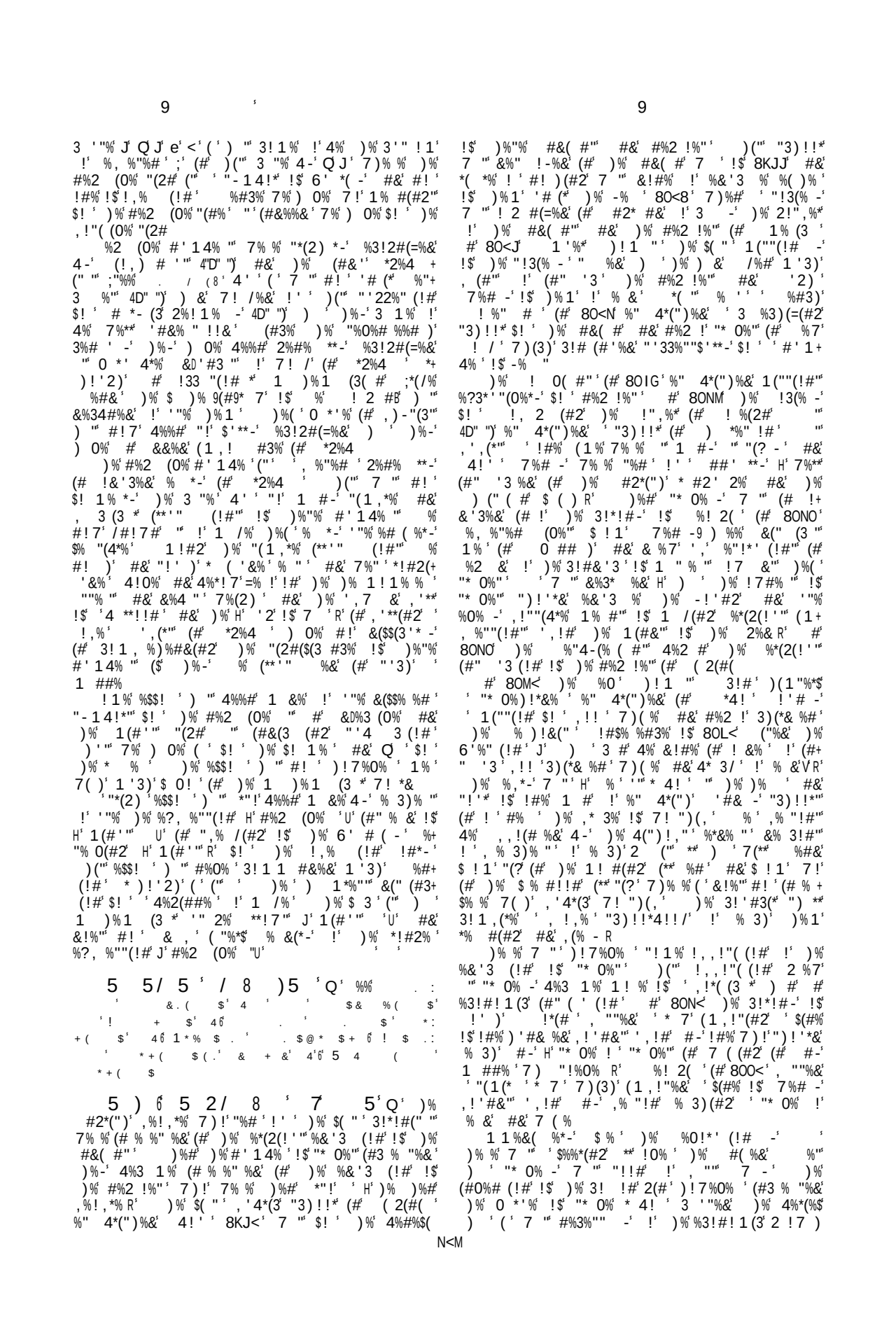

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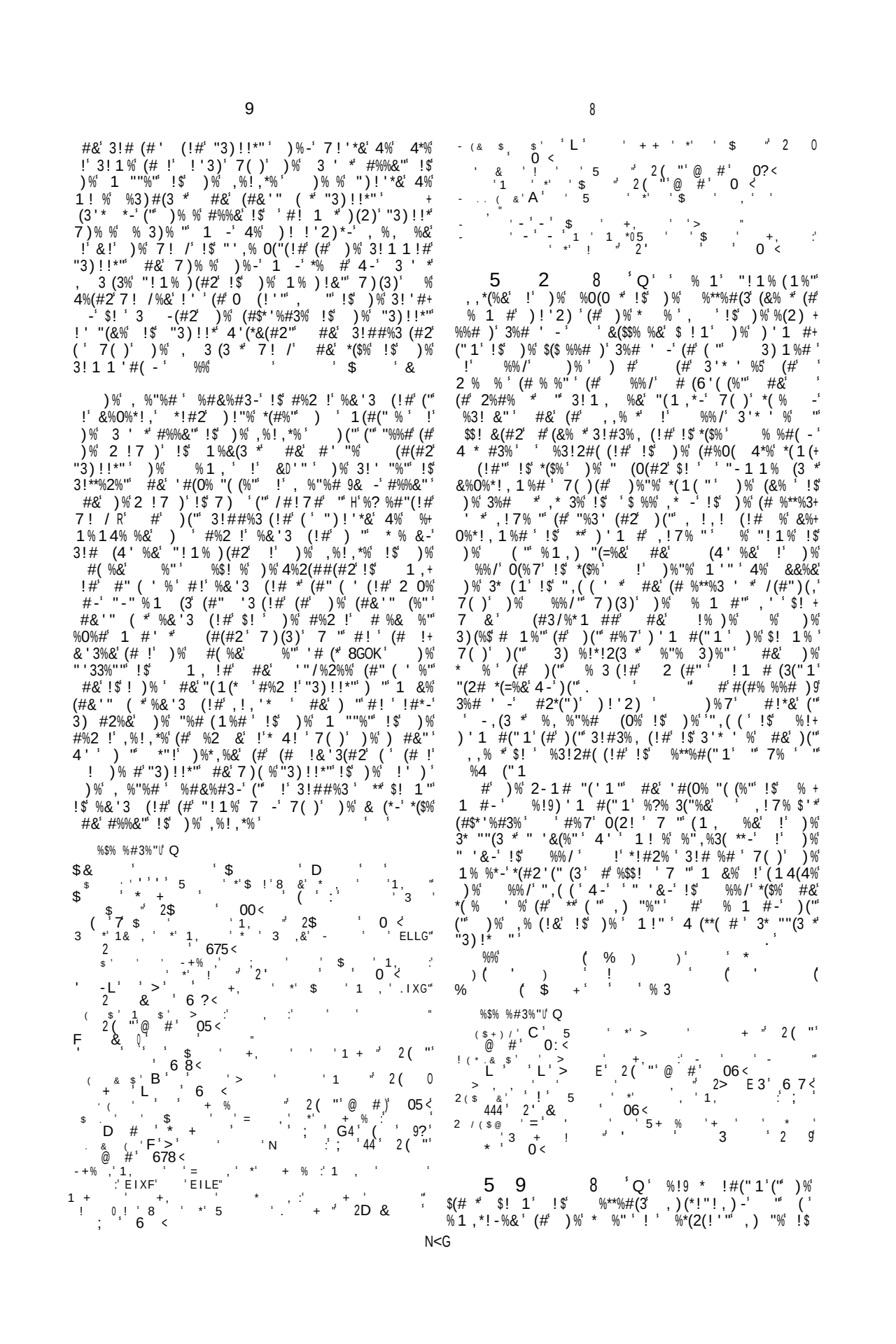

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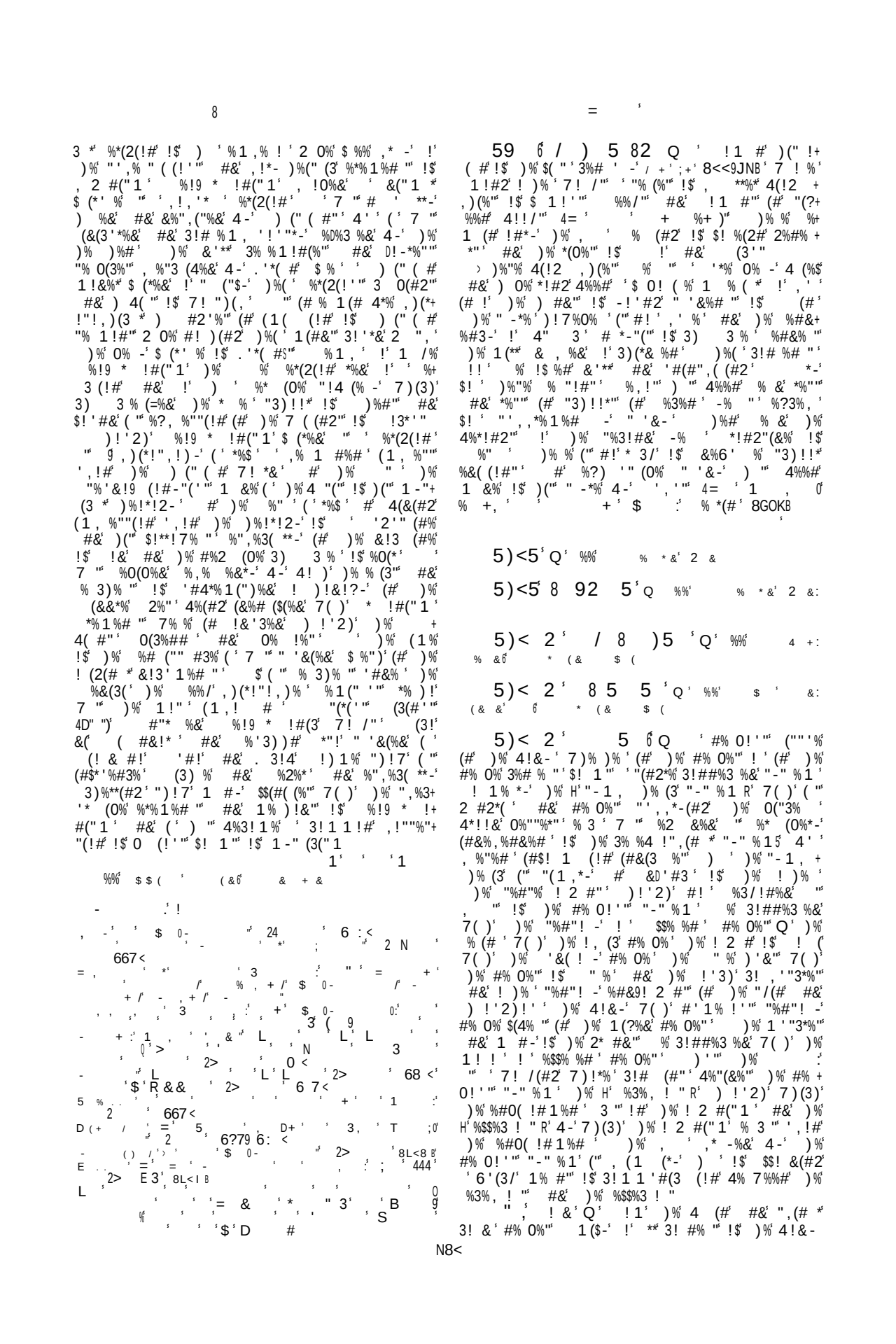

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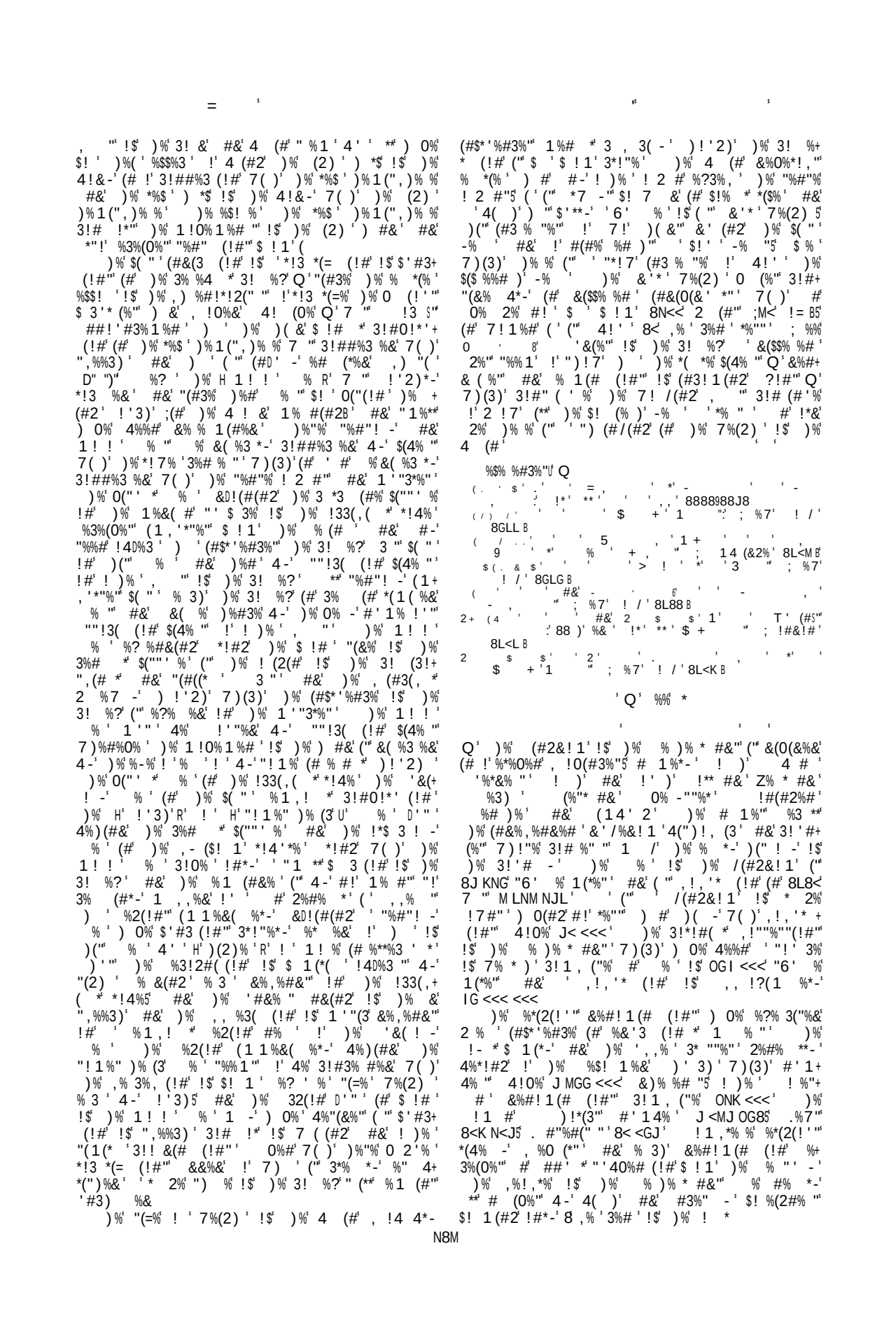

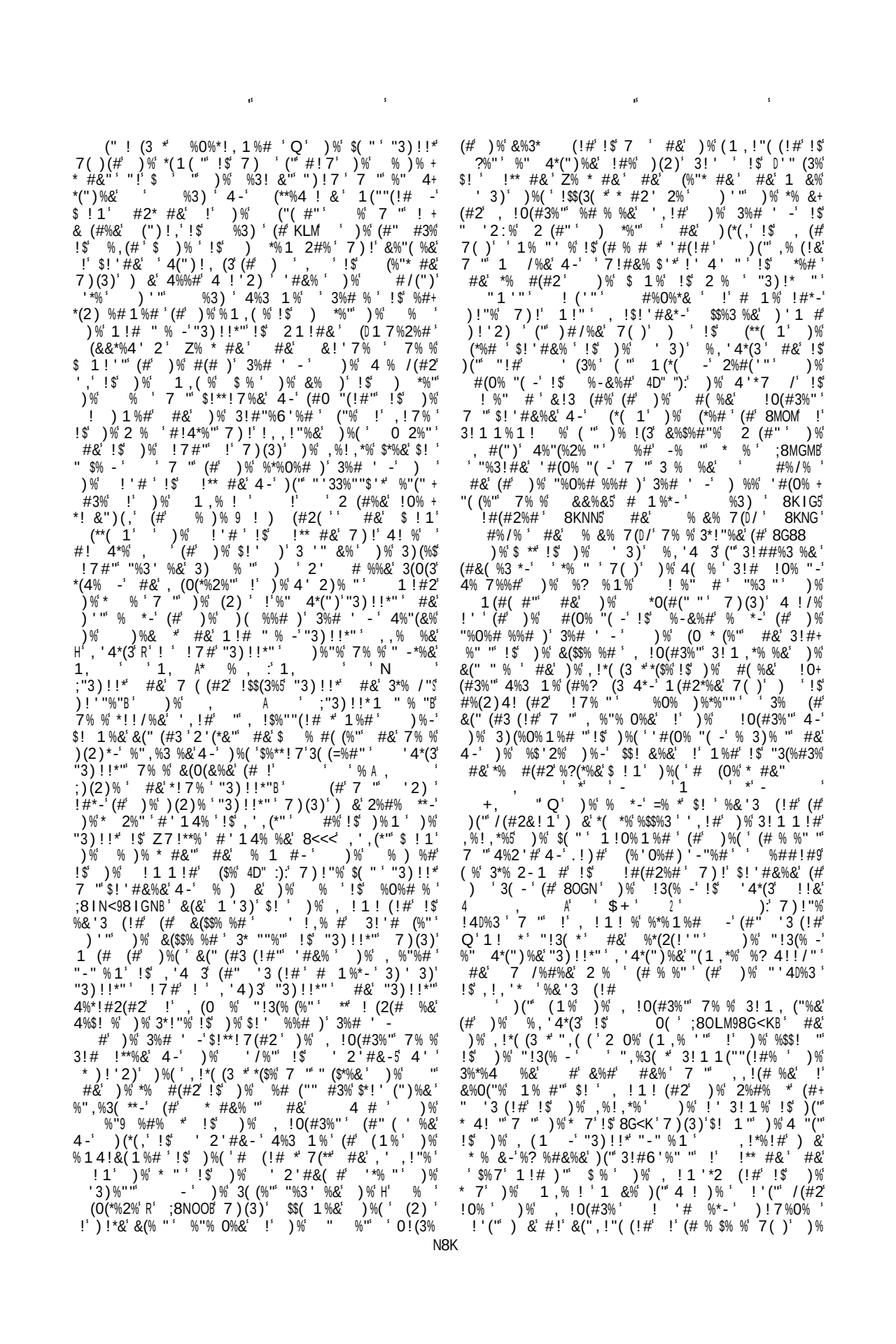

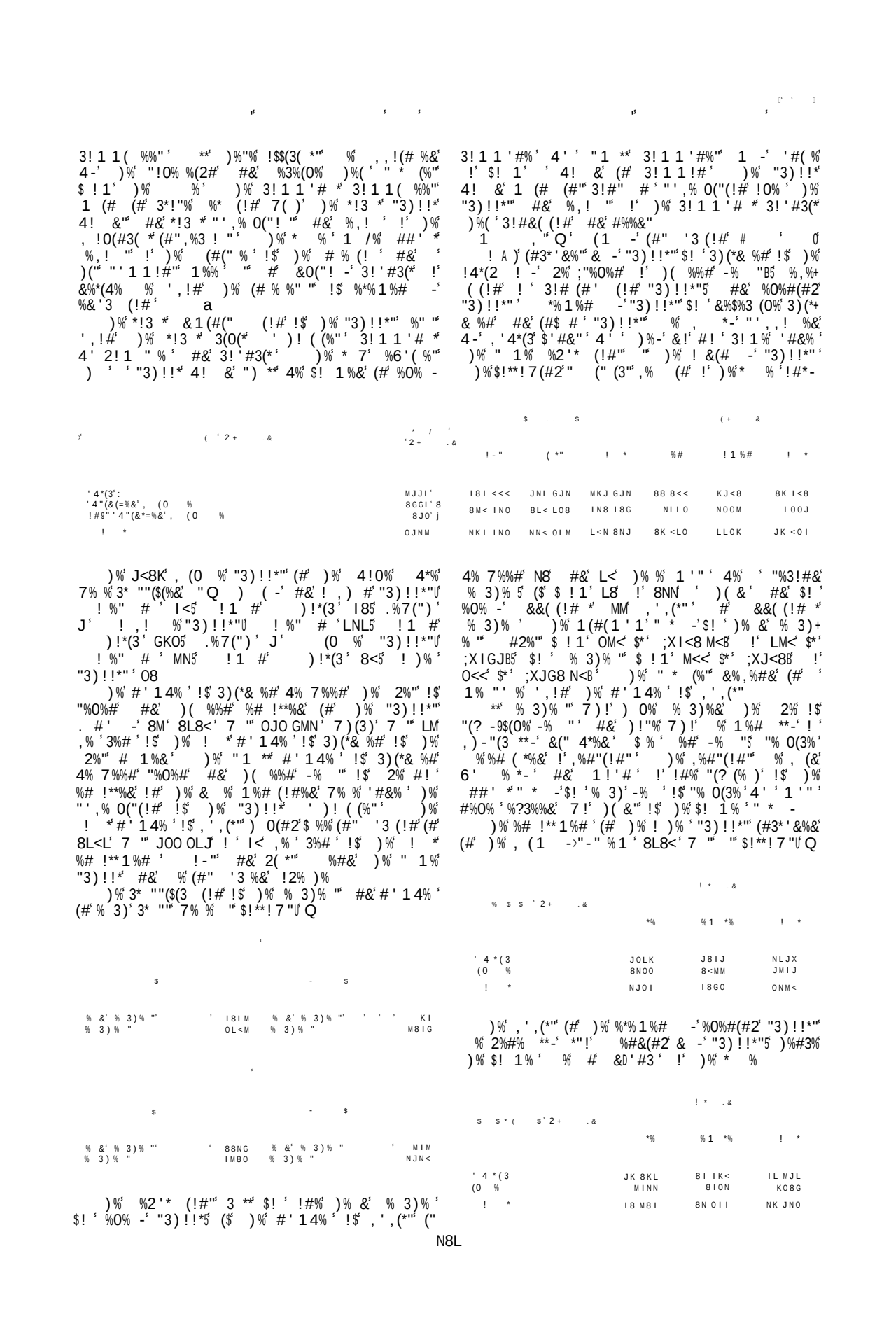

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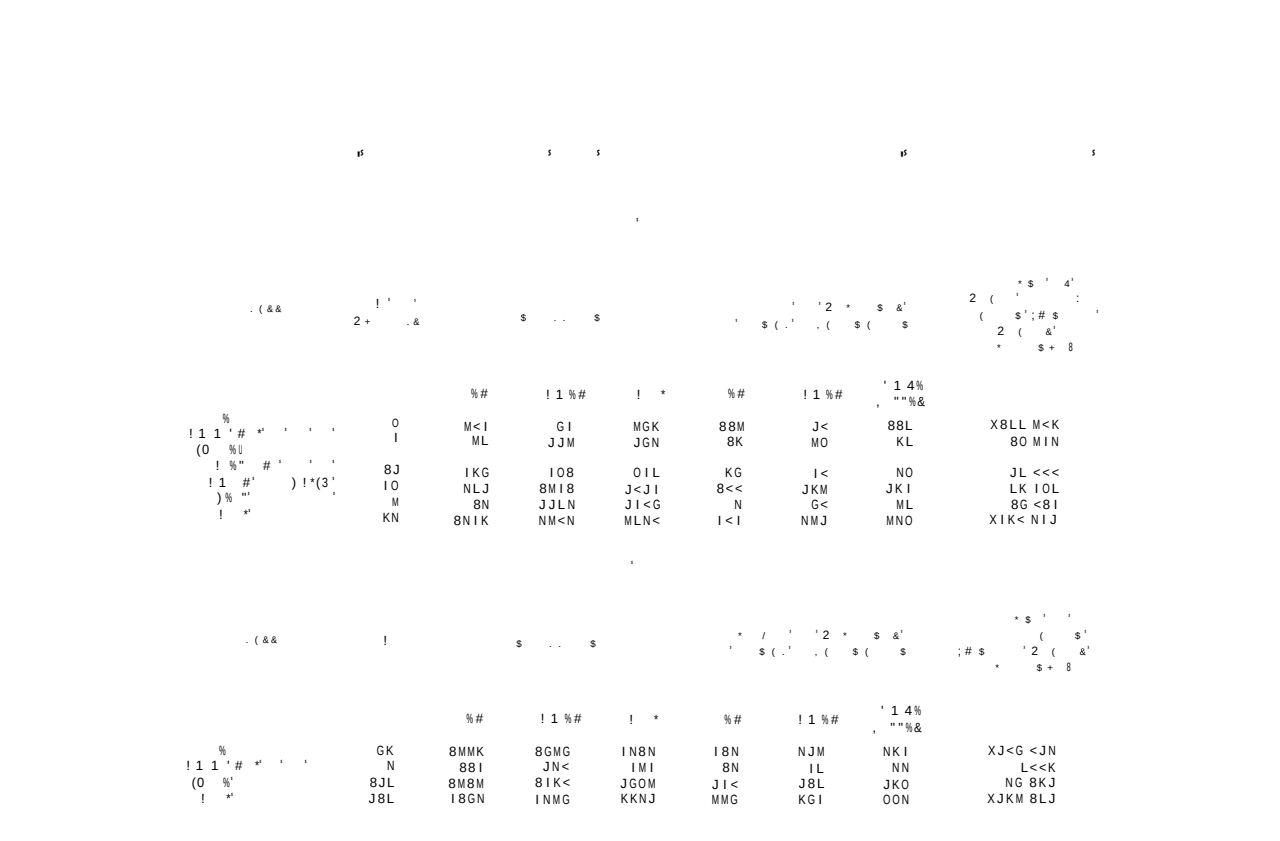

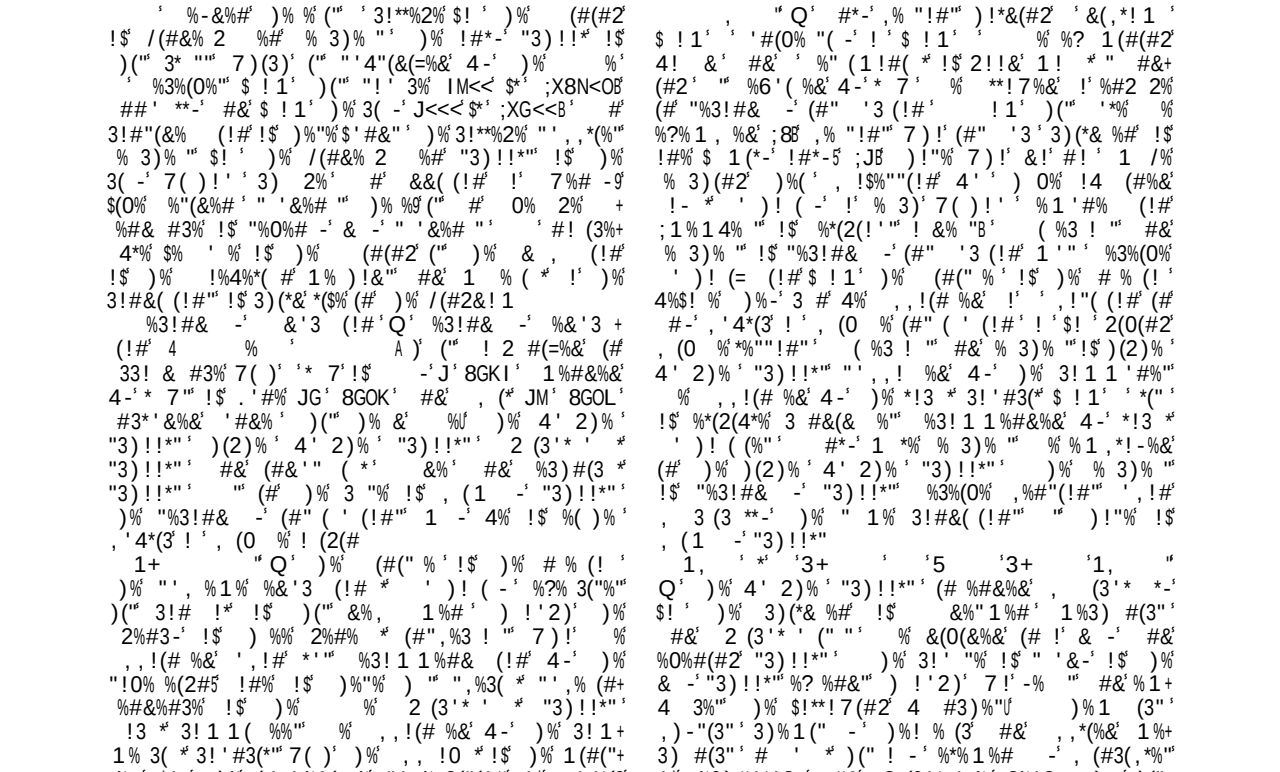

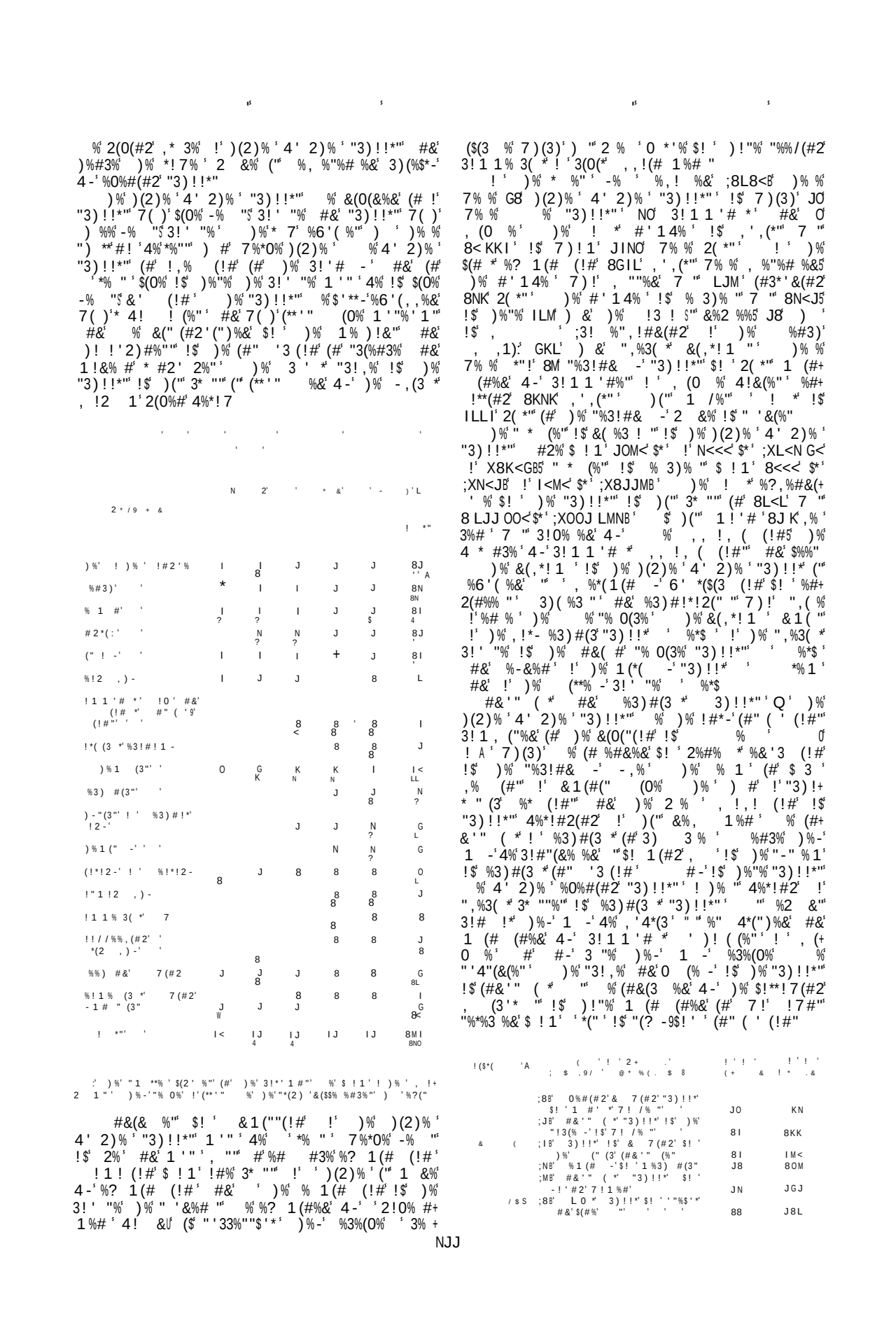

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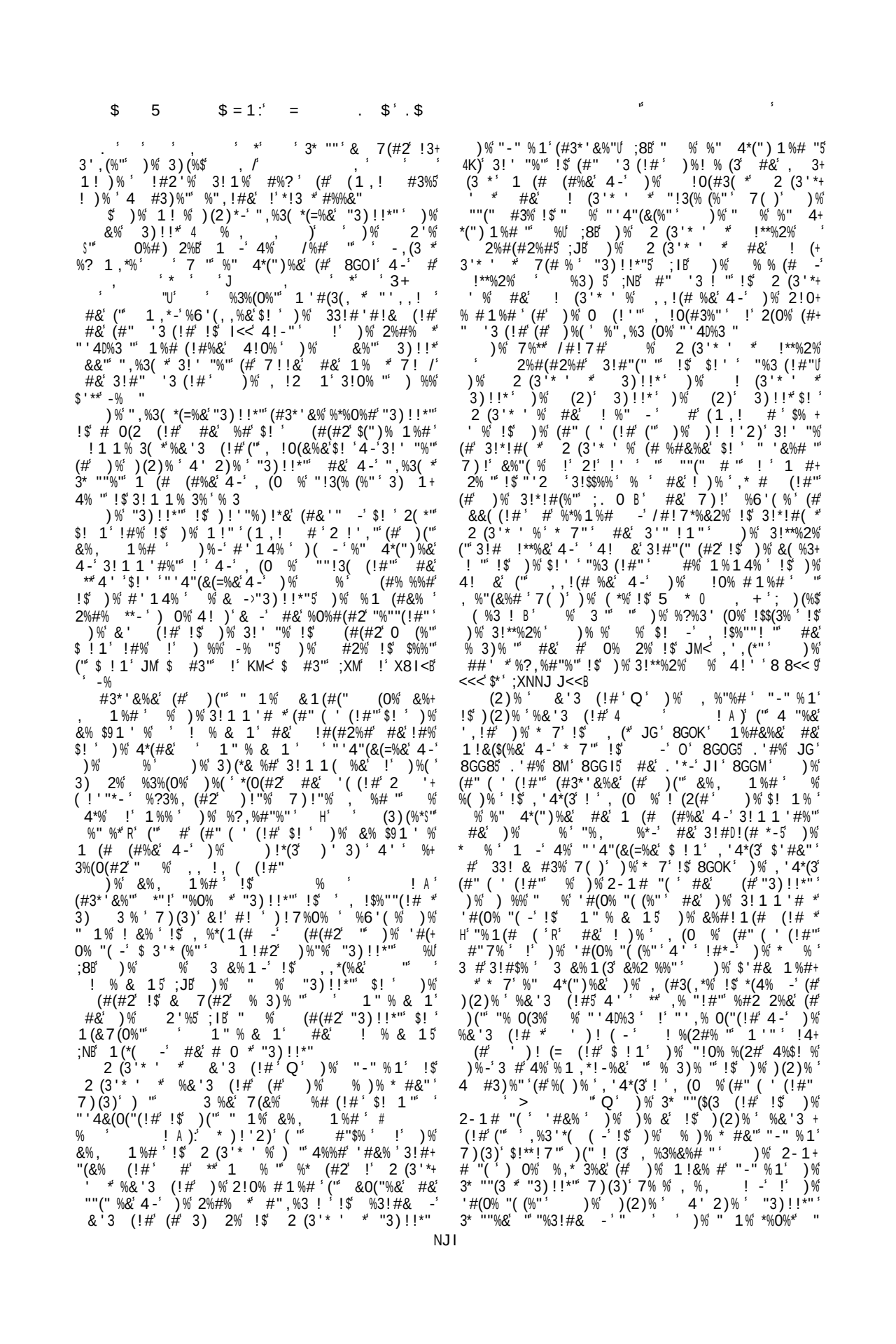

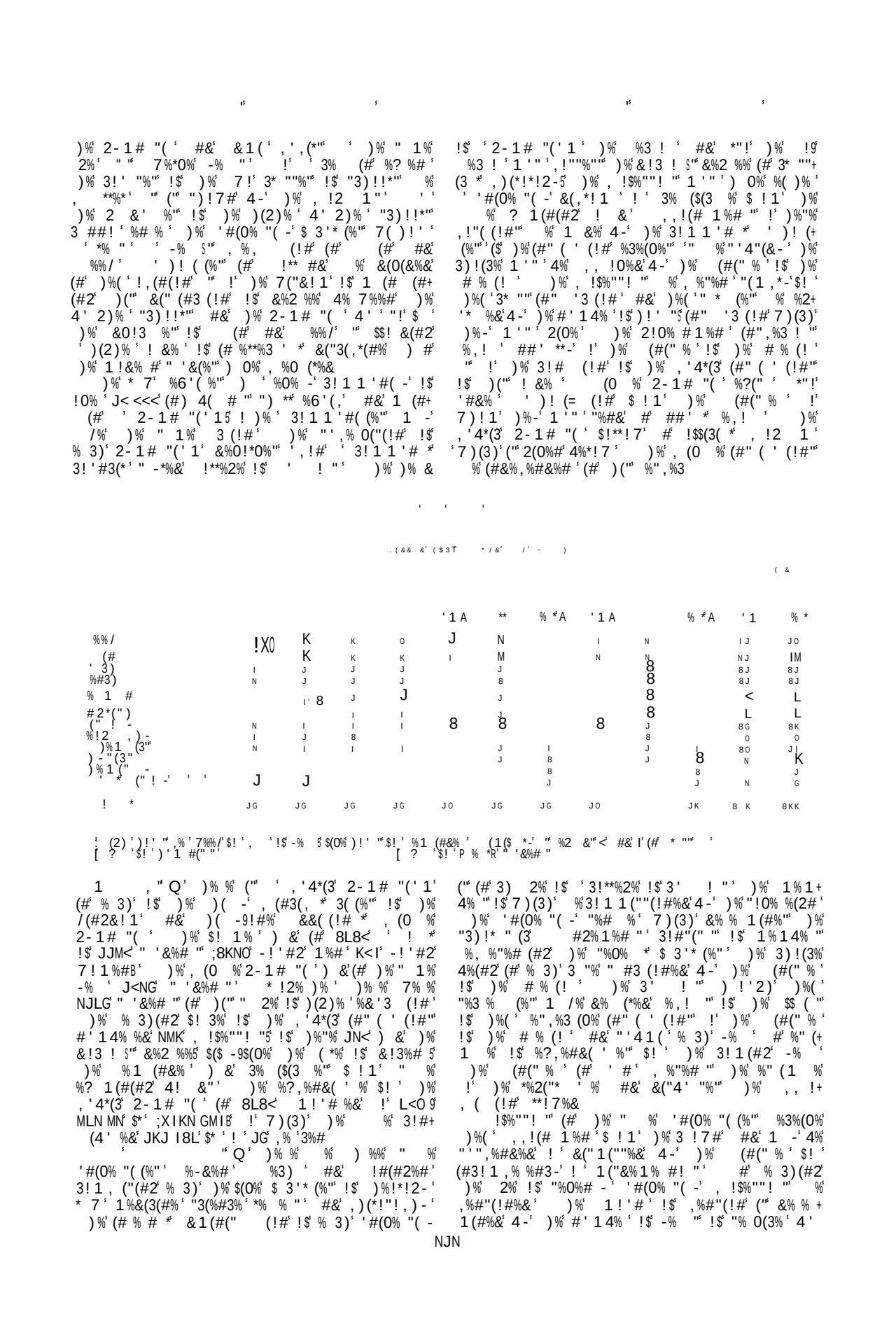

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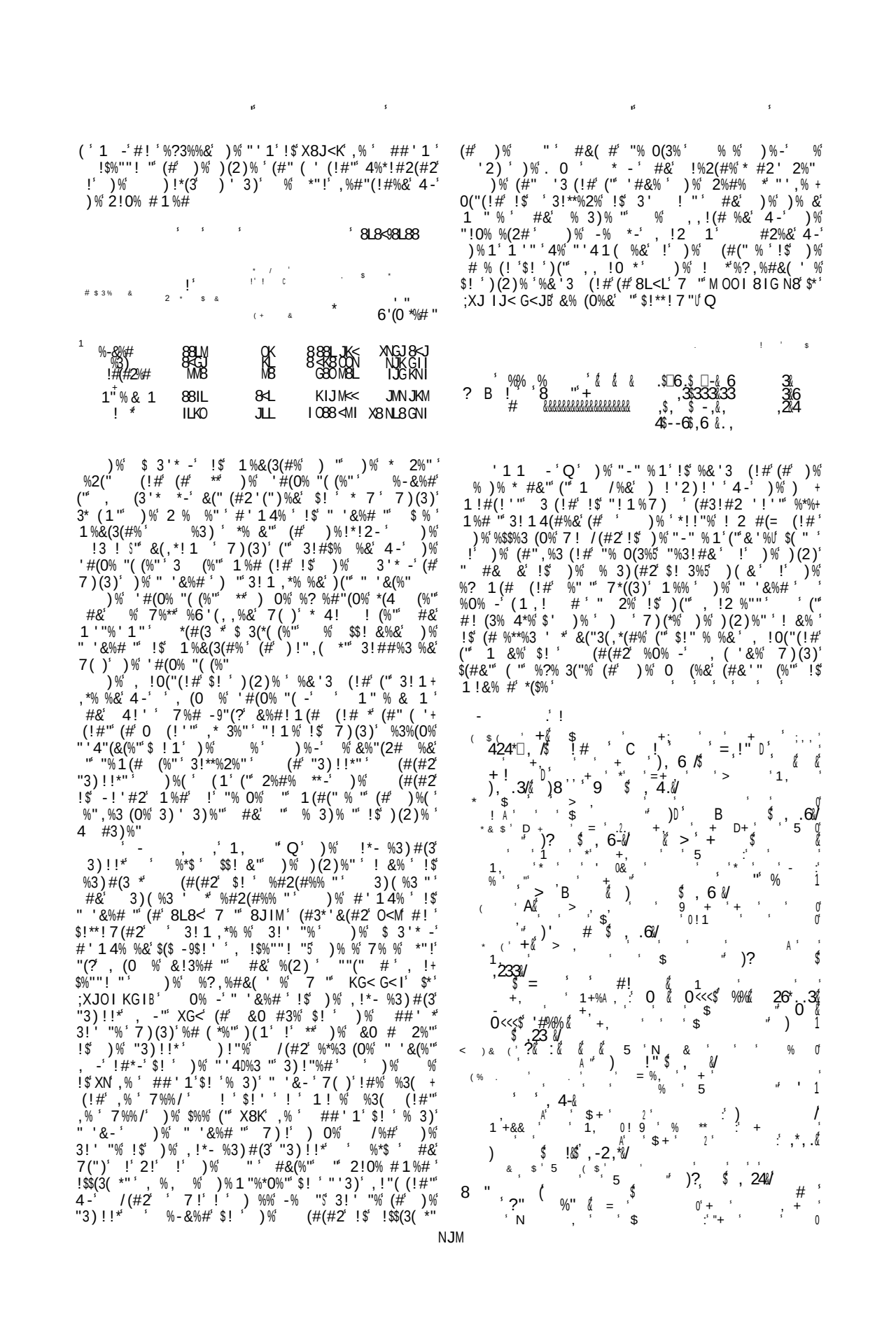

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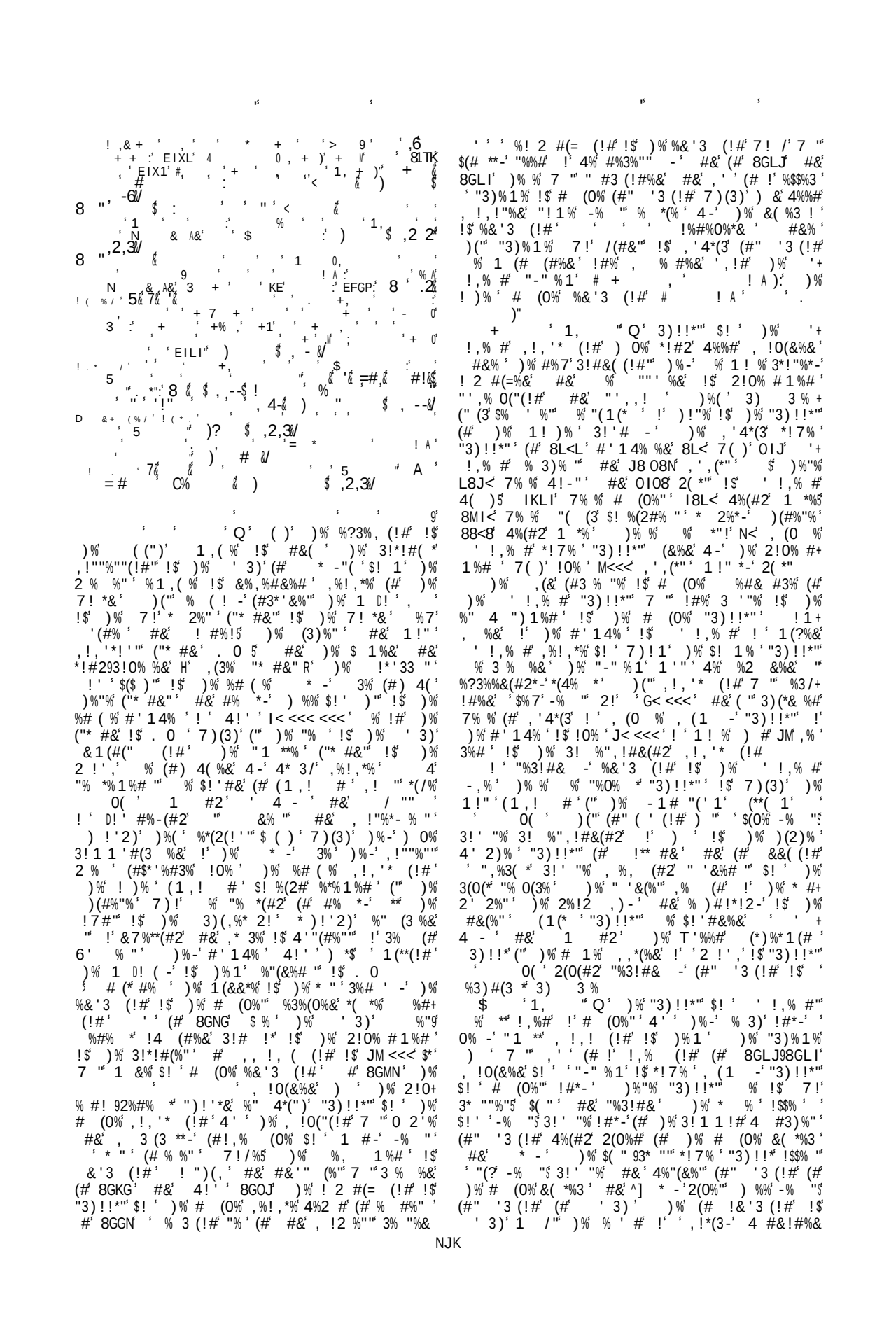

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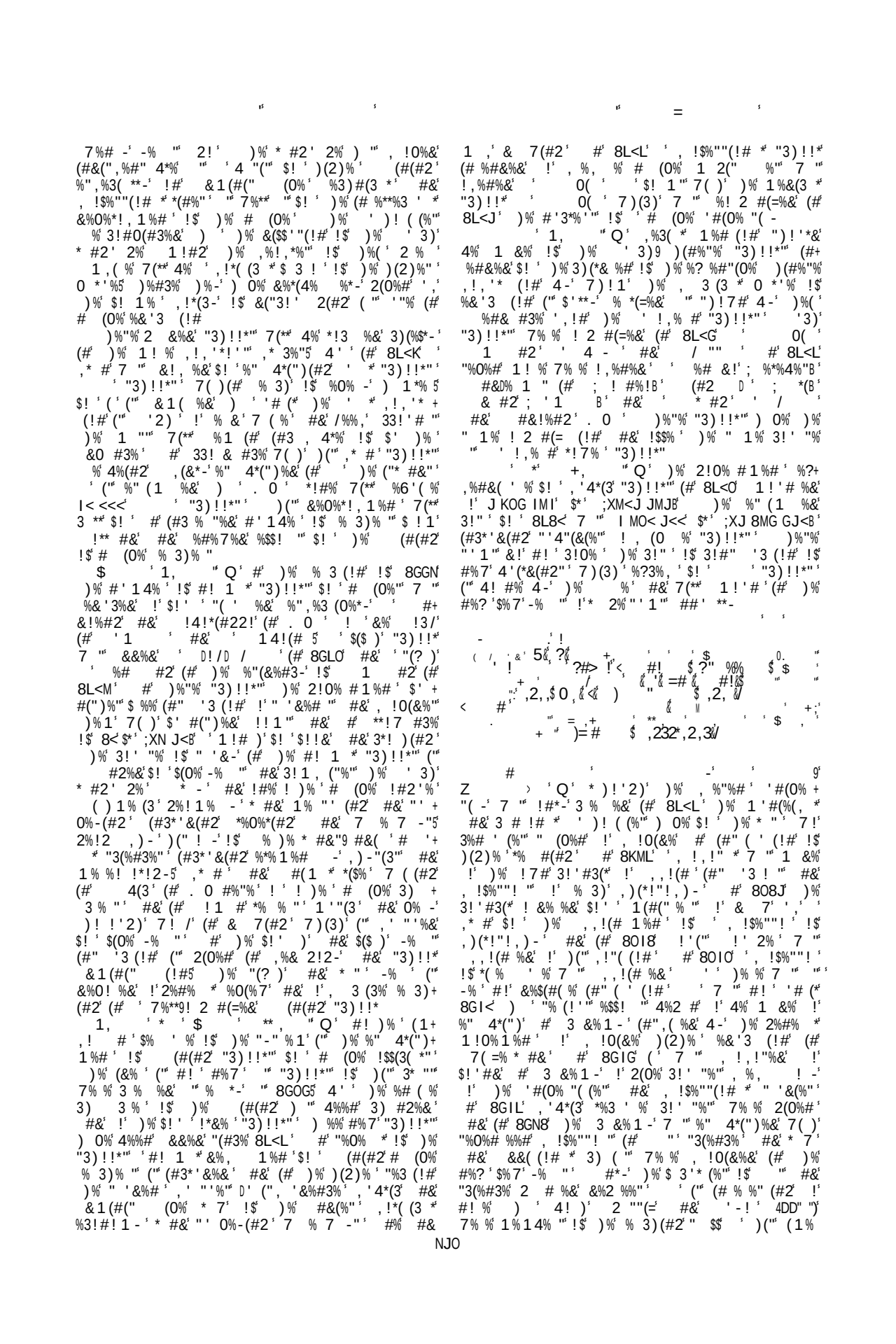

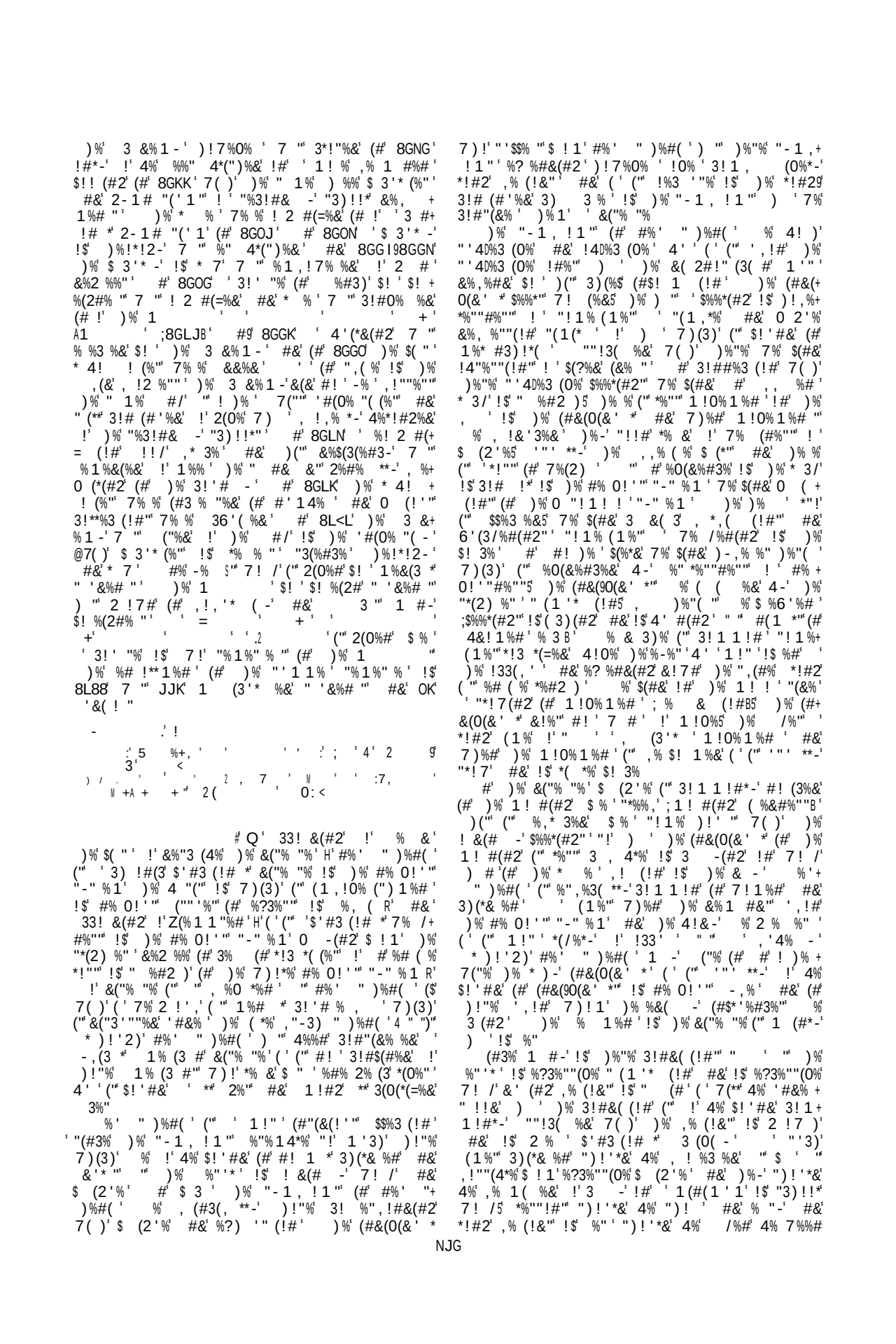

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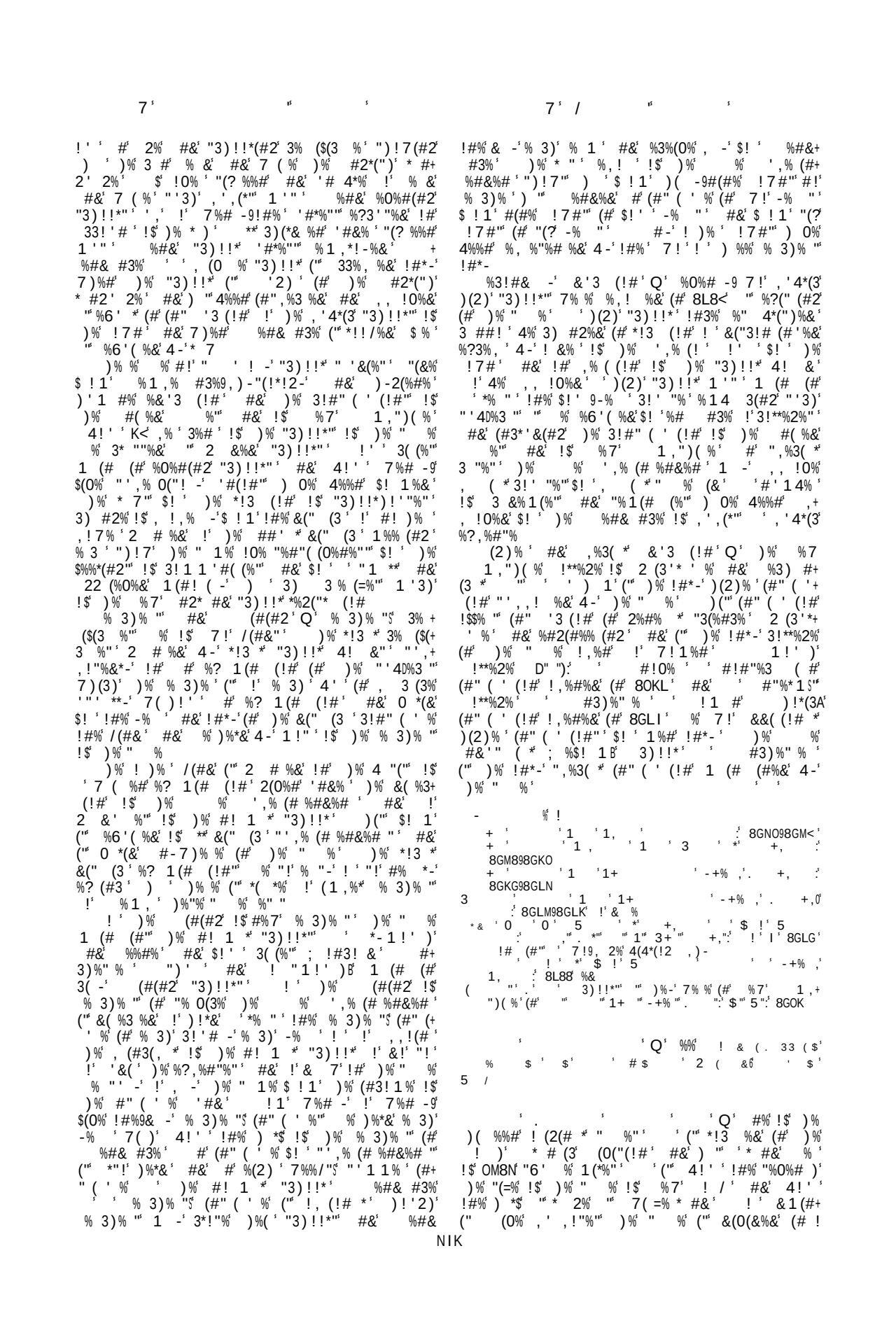
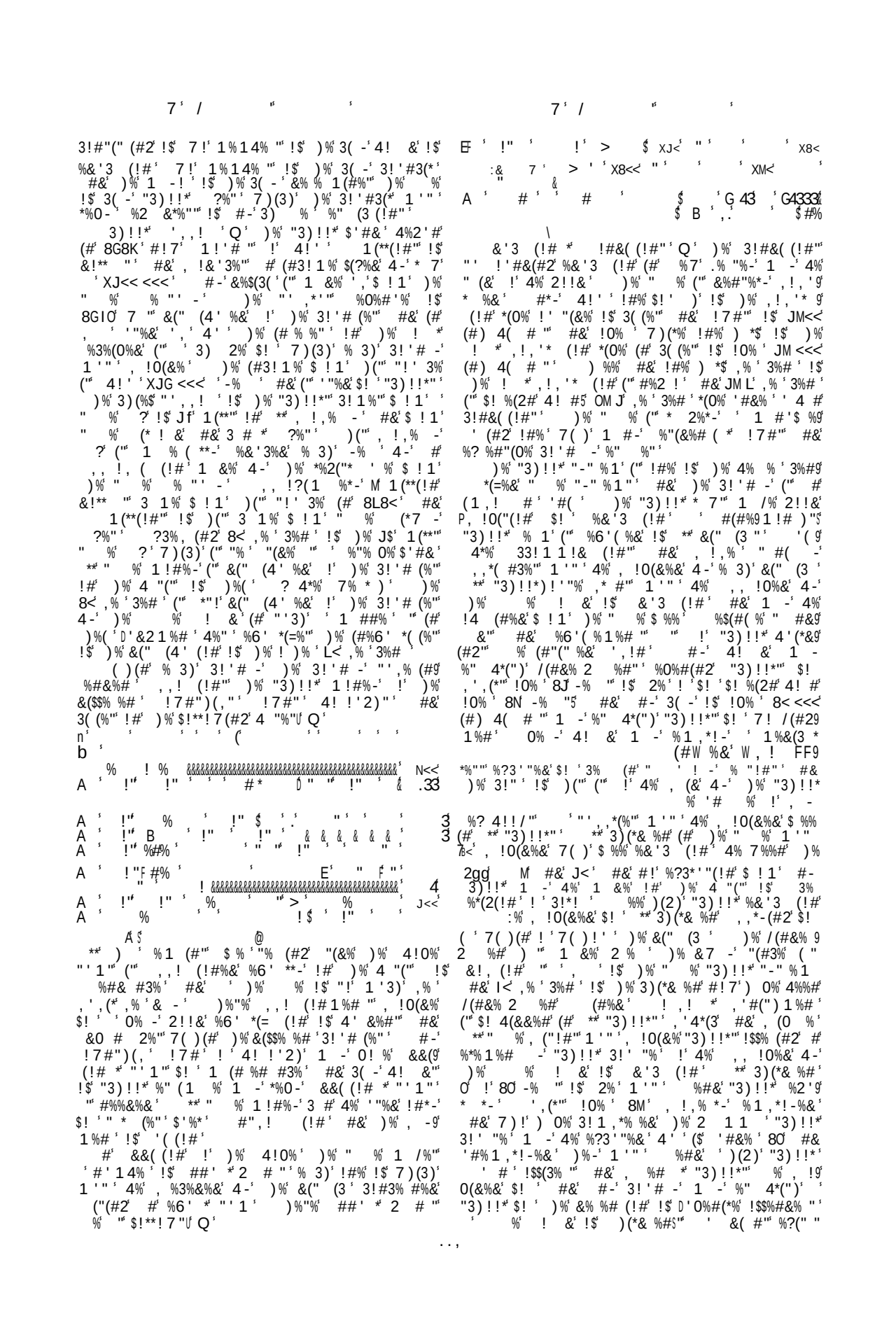
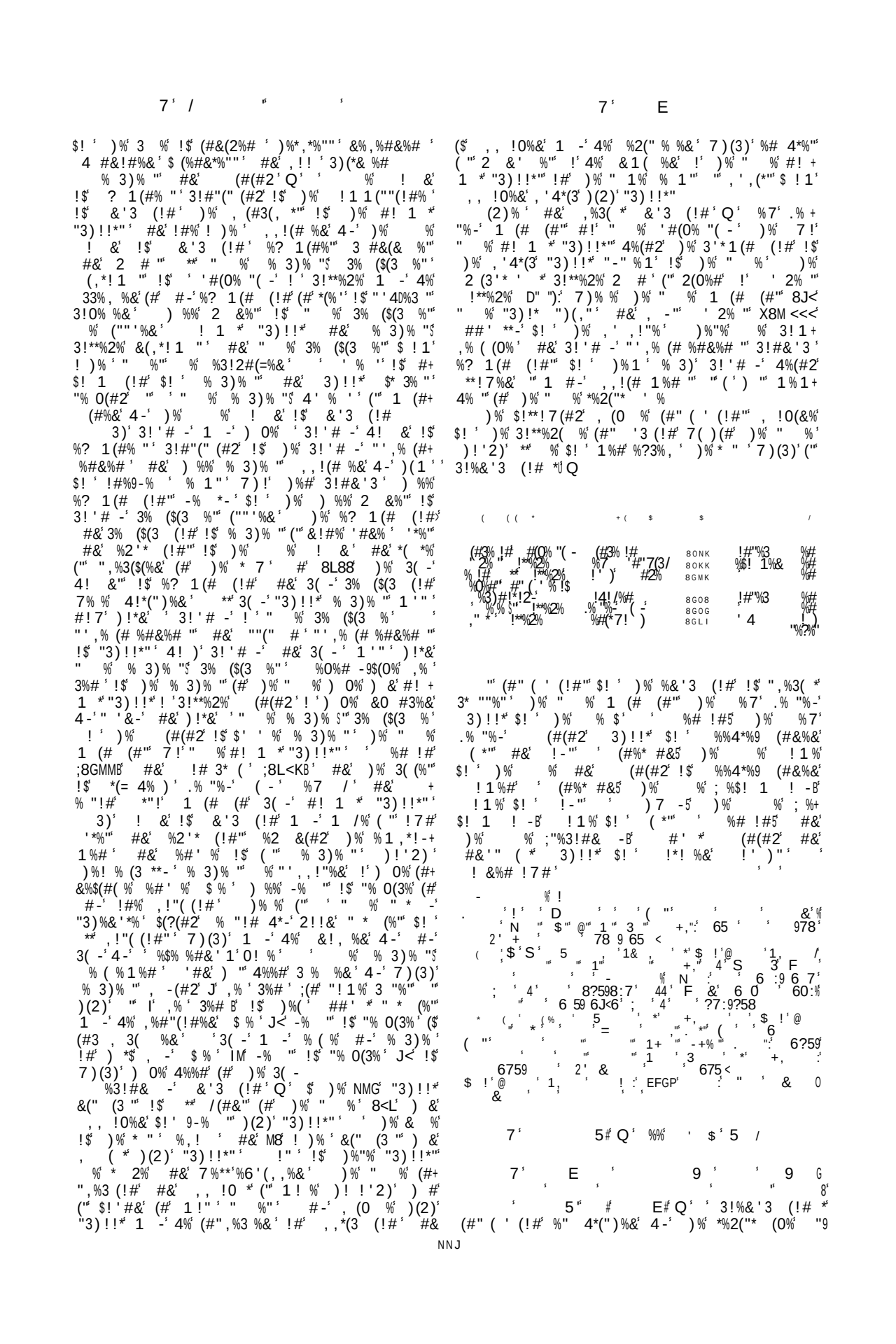
$' ** "3)!!* %0%#'%"' ("%&'&' (#2')%' * "' -% ' $!' 7)(3)' " (" (3"' % 0 (* 4*%' O' ,%' 3%#' 3 1%' $!1' " "' !' 3%"' GG J' ,%' 3%#' 3 1%' $!1' *!3 * ? (!#' #&' N G' ,%' 3%#' 3 1%' $!1' *!3 * $'#&"' '((!#' $%%"' 2($ "' %?3%"'" !$' &!2' ?%"' !7#' % "' -', -1%# "' #&' !)%' 1("3%** #%!'" "!' 3%"')%' (#+ %6' *((%"' '#&% ')(" "-' %1' &'% !' (#%6' *+ ((%"(#' 7% *)' %* 2%' #&')%"%(#%6' *((%"')%' " %') "' %1, %&' !' %6' *(=%' (#', ' 4-' 7("%"-" %1' !$' " % (& &'3 (!# * !#&((!#"' Q' $')%' ! * ,!,+ '* (!#' !$' 8L8<' JJ N',%' 3%#' 7%' %' !$' $! %(2#' 4( )' ' $%7' !$')%' # (0%94! #',!,'* + (!#' % (**(% %5' 4' ' $!' ')%' $! %(2#' 4! #' 4!' '!#%' $( )' %" "!' 3* ""%&' $')%' $! %(2#' 4! #' M<',%' 3%#' 7%' % %#3)' # &(#"' #&' L<',%' 3%#' 7%' % $!1' # & ' !')% ((")' "*%"')%' ,% 3%# 2%' !$' 3)(*& %#' $(0%' !' %(2) %%#' -% "' !$' 2%' (#')%' ! * ,!,'* (!#' (" *!7%') #' (#' #-' !)%' " %' !$')% #(!#' %?3%,' %0 & ')% % % , 3 (3 **-' #!' #%2 !%"' (#')%' " %') %' 7)(%"' 3!#" (' (#2' LL G' ,%' 3%#' !$')%' ! * ,!,'* (!#5' N< G' ,%' 3%#' !$')%',%!,*%' *(0%' (#' ' * &(" (3 "' #&' NJ' ,%' 3%#' (#' 3((%"' !$' !0% ' G<<<' (#) 4(+ #" ')% %#& #3%' #&' 3)(*&' * 4!' * 7"' % 2!!&' ' #' !$$(3% "' 1'"' 4% , ,!(# %&' 4-' % 3)' !7#' #&' &(" (3 ' #&')%-' 1 -' 4%' &(%3 %&' !' (#",%3 ' $ 3 !(%"') %%' " %' (#",%3 1 "' *"!' ""(" ' (#')% %#$! 3%1%#' !$')%' ' #3-' #&' * 4!' * 7" ' !' 3)(*&' '#&% ' 7%*0:' 3 #' 7!/' ' ** (#' #-' 1 #'$ 3 ' (#2' %" 4*(") 1%# 5' #&' #!' 3)(*&' '#&% ' "(? %%#' &' (#2')%')!' "')%"3)!!*"' %(#'"%""(!#' 7( )9



NIL





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$!')%#%?'&%3&%'*%"'7%%,!0(&%&
4-')%)!*(3')'3)'#8GML'(3)%*%'"
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"%3(!#*#&"%!$#!0*'%5#&')'))%%
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7()'"%1%#'))%%(!(*!&'
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"3(,(!#"$!1')%7%*)-'#&'**$(#%"$!'
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3!'#-'#&')%-'!2%)%'7()')%,!4%
D'&2%'7%%!')0%)%%"4*(")1%#'#&'
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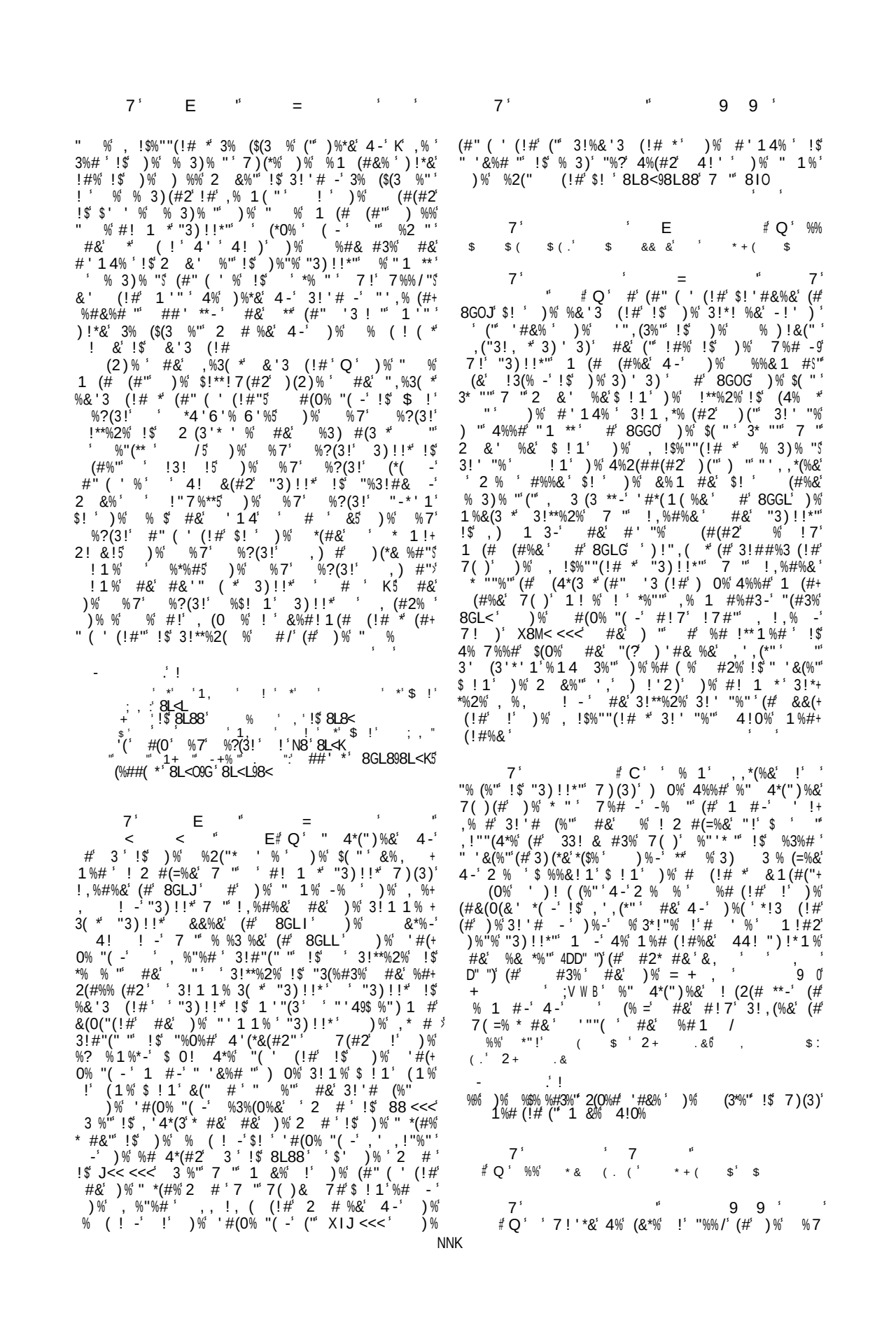

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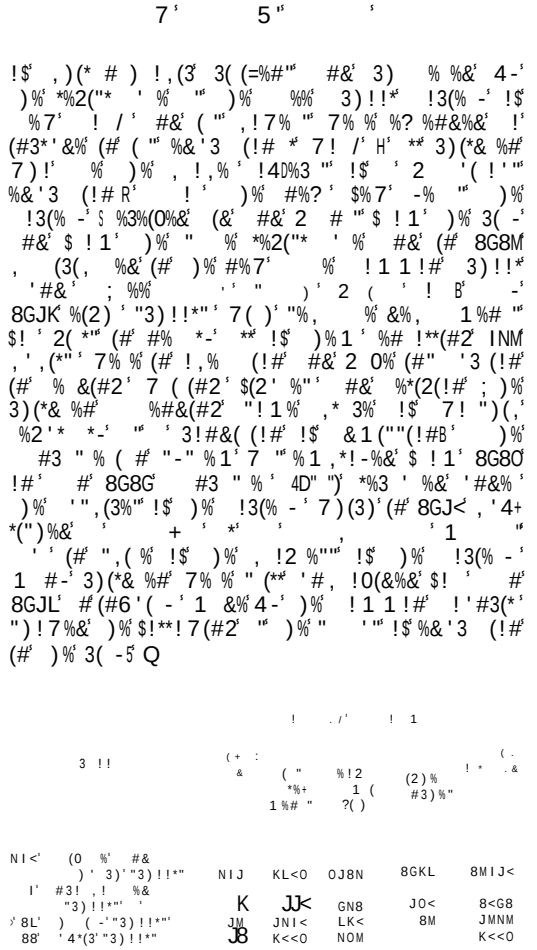

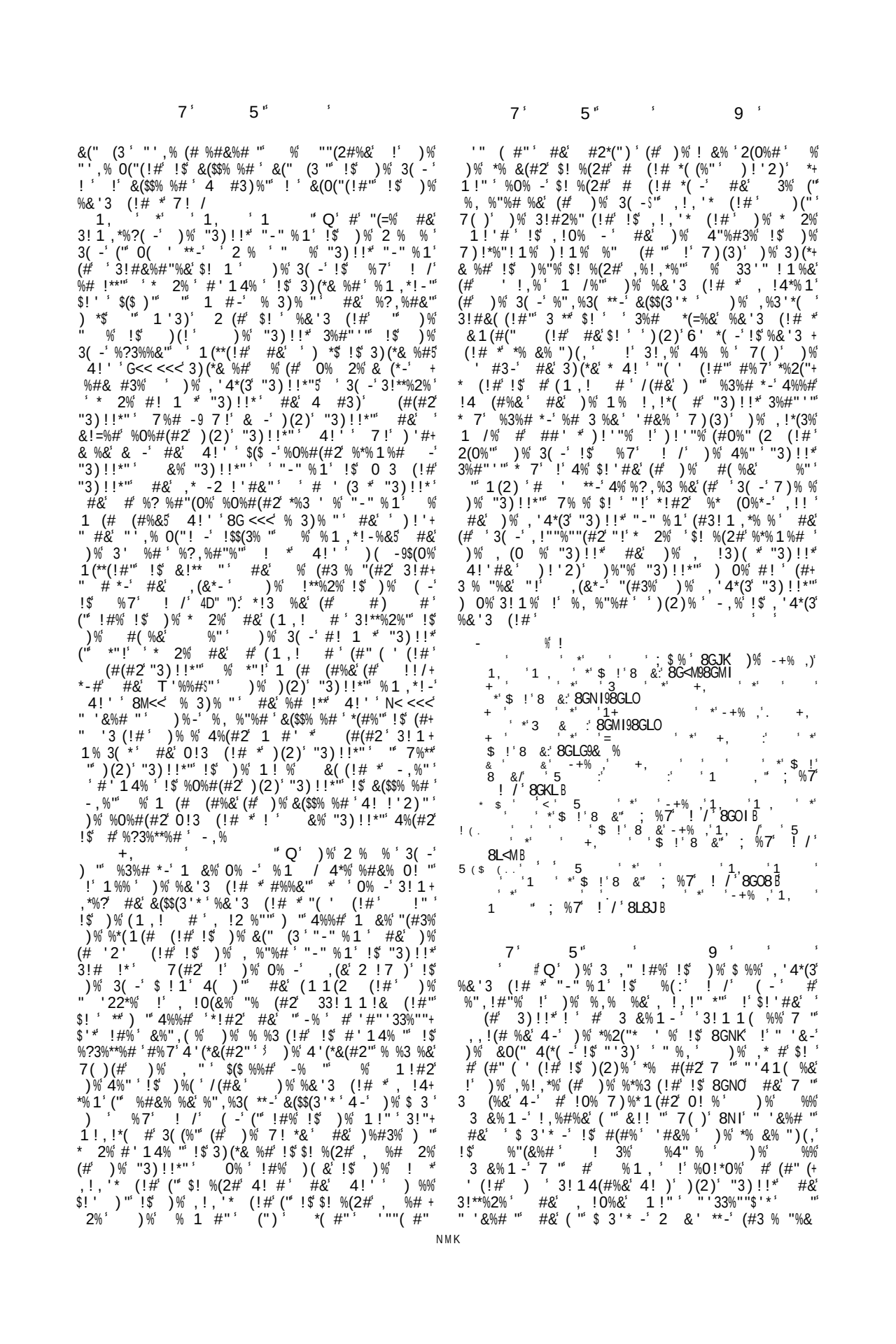

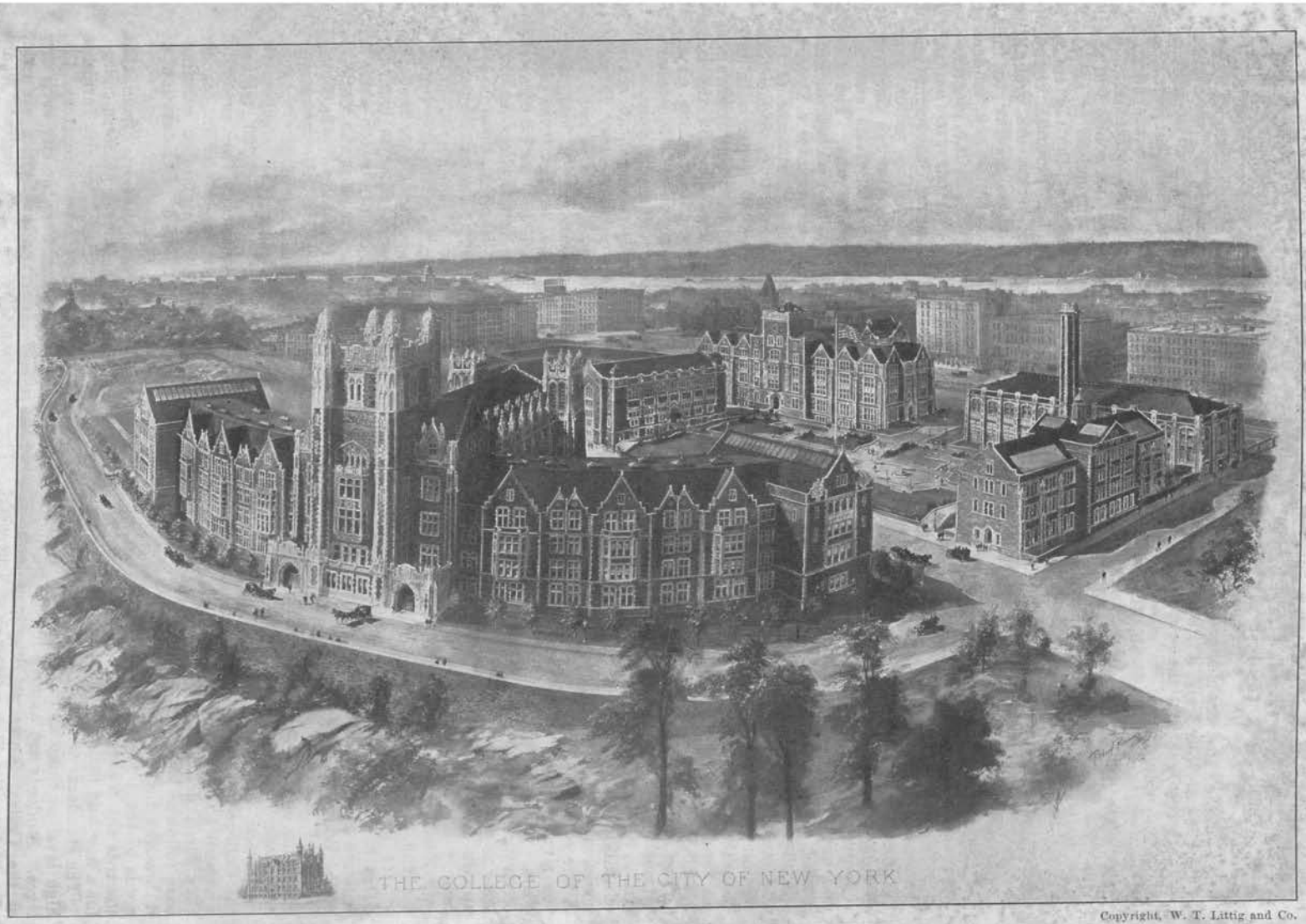

THE COLLEGE OF THE CITY OF NEW YORK

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its standards were steadily raised until it reached the level of the best of the eastern colleges.

In 1866 the name was changed to The College of the City of New York, a title more in keeping with the rank and the scope of its work. Under the direction of its second president, General Alexander S. Webb, the sphere of work of the college increased in such proportions that annexes were built and temporary quarters were hired in adjoining buildings. By the close of the century, the pressure of a rapidly growing student body made it evident that new quarters were imperative. The city provided $5,000,000 for a new home of five buildings on Washington Heights, with an equipment unsurpassed. In 1908 these new structures were given over to a student body of over 4000, including the preparatory classes, an instructing corps of about 230 under the presidency of John Finley. The college not only provides tuition for 1300 college students and over 2500 preparatory students, but also special instruction for over 3000 teachers of the city schools and for 500 evening students, and musical recitals and lectures for the promotion of higher musical interests to tens of thousands. All these activities are carried on through an annual appropriation of about $600,000.

The aim of the college is to enable all ambitious young men, properly prepared, to obtain the cultural advantages of a higher education, to foster in them a civic and social conscience, to develop an ideal citizen body. A free education of college grade is open to all the city's sons, irrespective of race, creed, or class. Unlike the civic universities of England, often placed in the same class, the College collects no fees, makes no charges for books and apparatus, and does not depend upon the bounty or the philanthropy of any private individual. (See MUNICIPAL COLLEGES AND UNIVERSITIES.)

The present organization of the College dates back to 1900. Prior to that year the trustees of the College were also the members of the Board of Education of the city schools. Occupied with the vexing problems in the education of 750,000 children, the Board could not properly direct the policies of this single institution. In 1900 the Legislature gave the College a separate board of nine trustees, who were to be appointed by the Mayor of the City for a definite term. Beneficial results soon followed in the wake of this change, for it brought increased familiarization with the needs of the College, and concentrated effort towards the realization of the cherished plans for a new and fitting home.

The standards of admission are on the same high level as those in the leading eastern colleges. Students are admitted by a certificate of the College Entrance Board, or by a diploma of the city high schools or of Townsend Harris Hall, the Preparatory Department of the College.

The spirit infused by the early authorities reflected their West Point training. The College is still characterized by severe discipline, rigorous mental work, a strict marking system, an emphasis on those subjects that give mental fiber. The classics are studied very intensively, and more mathematics is usually required than by other colleges in the country. The existing curriculum is an attempt to retain the rigor of the old course and rational latitude for personal choice. Six courses are offered: these are grouped under two heads, viz. those leading to the B.A. degree,—classical, Latin-French, modern language; and those to the B.S. degree,—general science, biology-chemistry, mechanical. All work is prescribed through the sophomore year. In the junior and the senior year ample opportunity is given, through electives, for the pursuit of special interests and the cultivation of individual powers. The College was the first to establish a chair in English as well as the first to organize a Department of Mechanic Arts. It was one of the pioneers in the movement to introduce the sciences and place them on a par with the classics. It responded to the pressure of needs of the day by organizing in the last decade departments of public speaking, physical training and hygiene, education, economics and social science, and music.

In addition to the regular college course, the College cares for a Preparatory Department, Townsend Harris Hall, with more than 2500 pupils. In the hope of reaching those worthy young men who through force of circumstances were denied the benefits of a college education, the Evening Sessions were organized in 1910. A freshman class of over 200 enrolled, each meeting the same entrance requirements as those which govern admission to the day sessions. Over 500 evening students are at present pursuing regular studies of college grade, striving either to complete an interrupted course, or merely for personal development. In order to meet the needs of those teachers of the city school system who are endeavoring to improve their professional standing, it offers under its auspices regular courses in education, English, comparative literature, science, etc. Over 3000 teachers are in regular attendance. The successful completion of these courses entitles the teacher to partial exemption in promotion examinations given by the Board of Education of New York City.

The student body is different from that which one finds in the average eastern college. The enormous population of the city furnishes the students. There is no dormitory life. The young men scatter over the city each day when college labors and activities are over. The great majority of these students would

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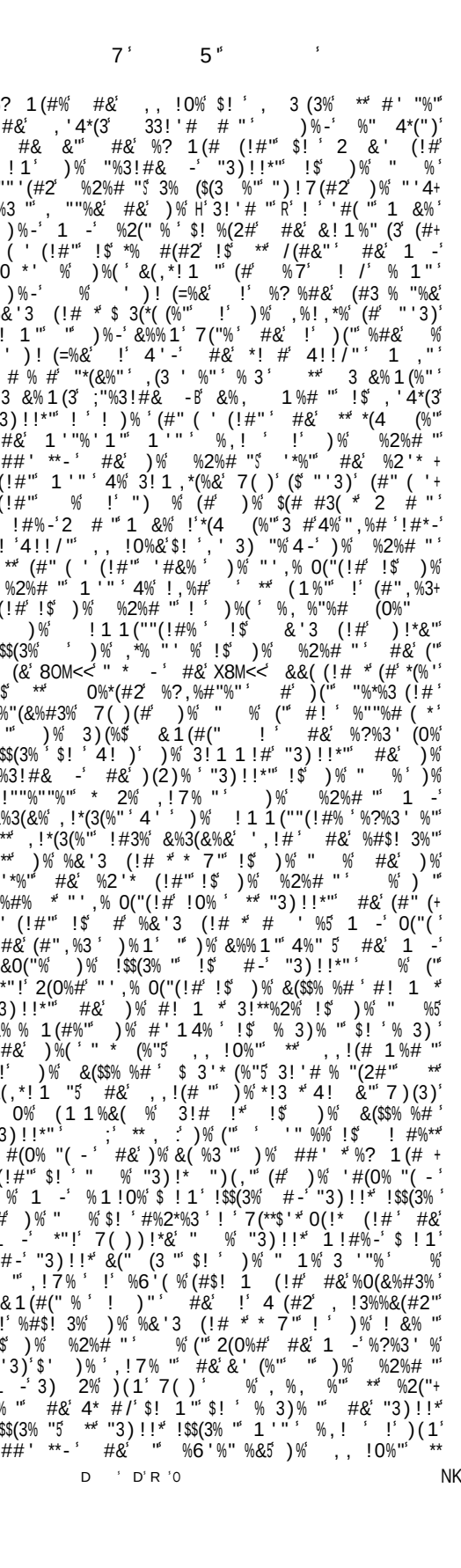

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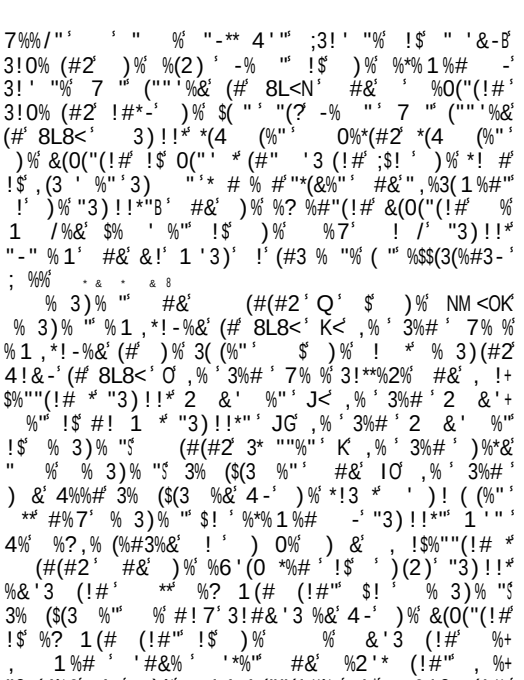

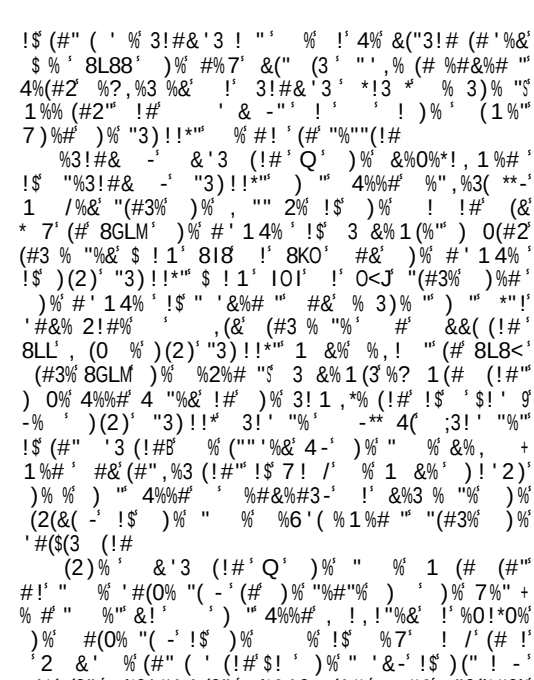

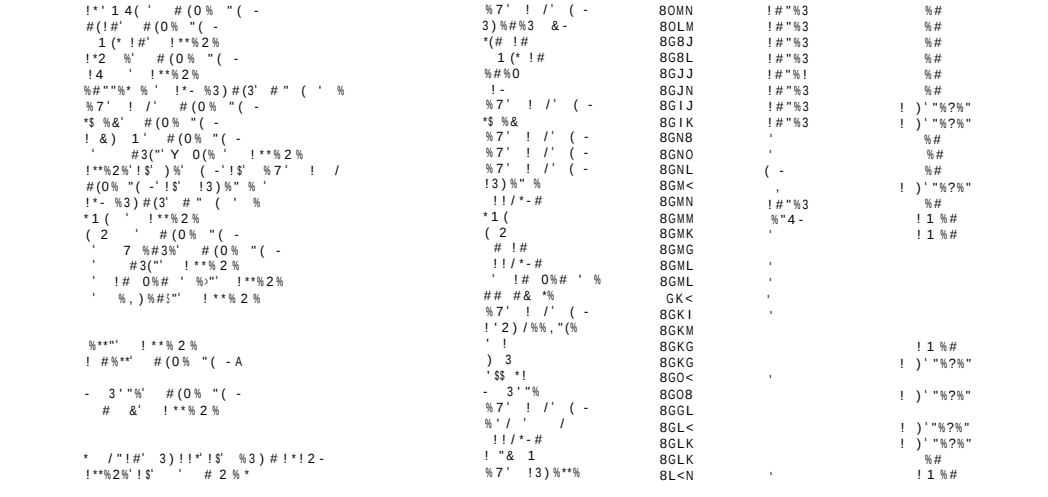

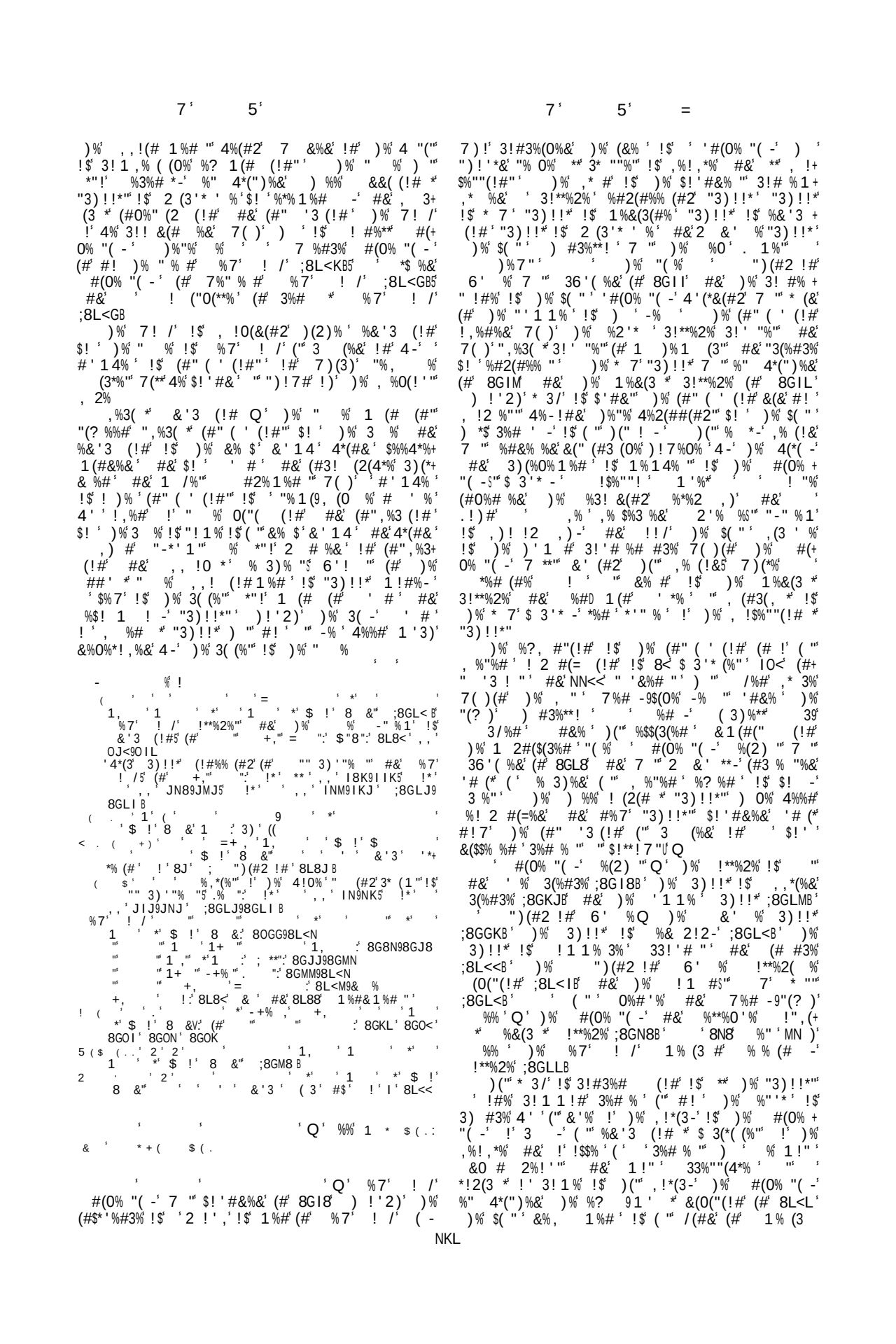

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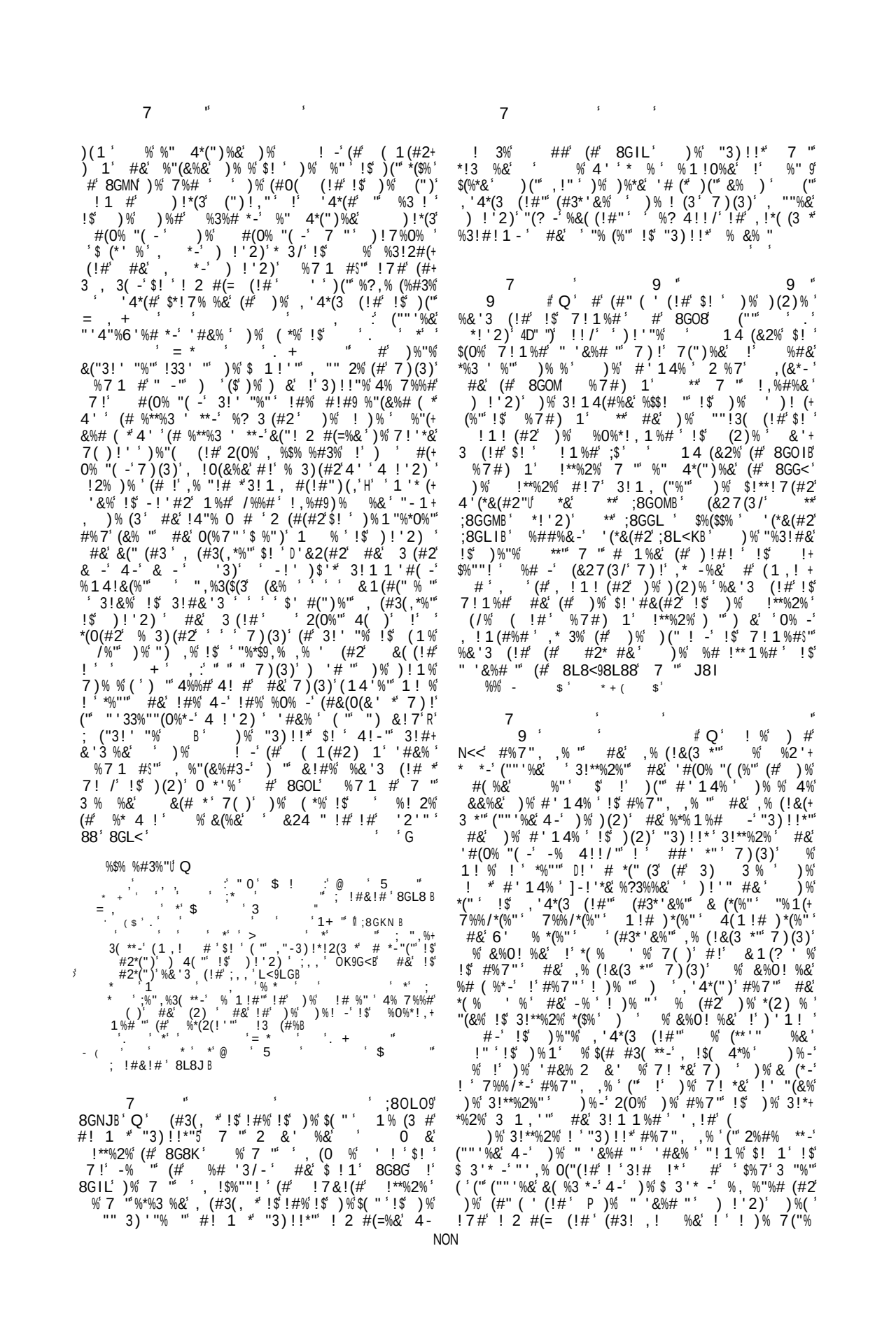

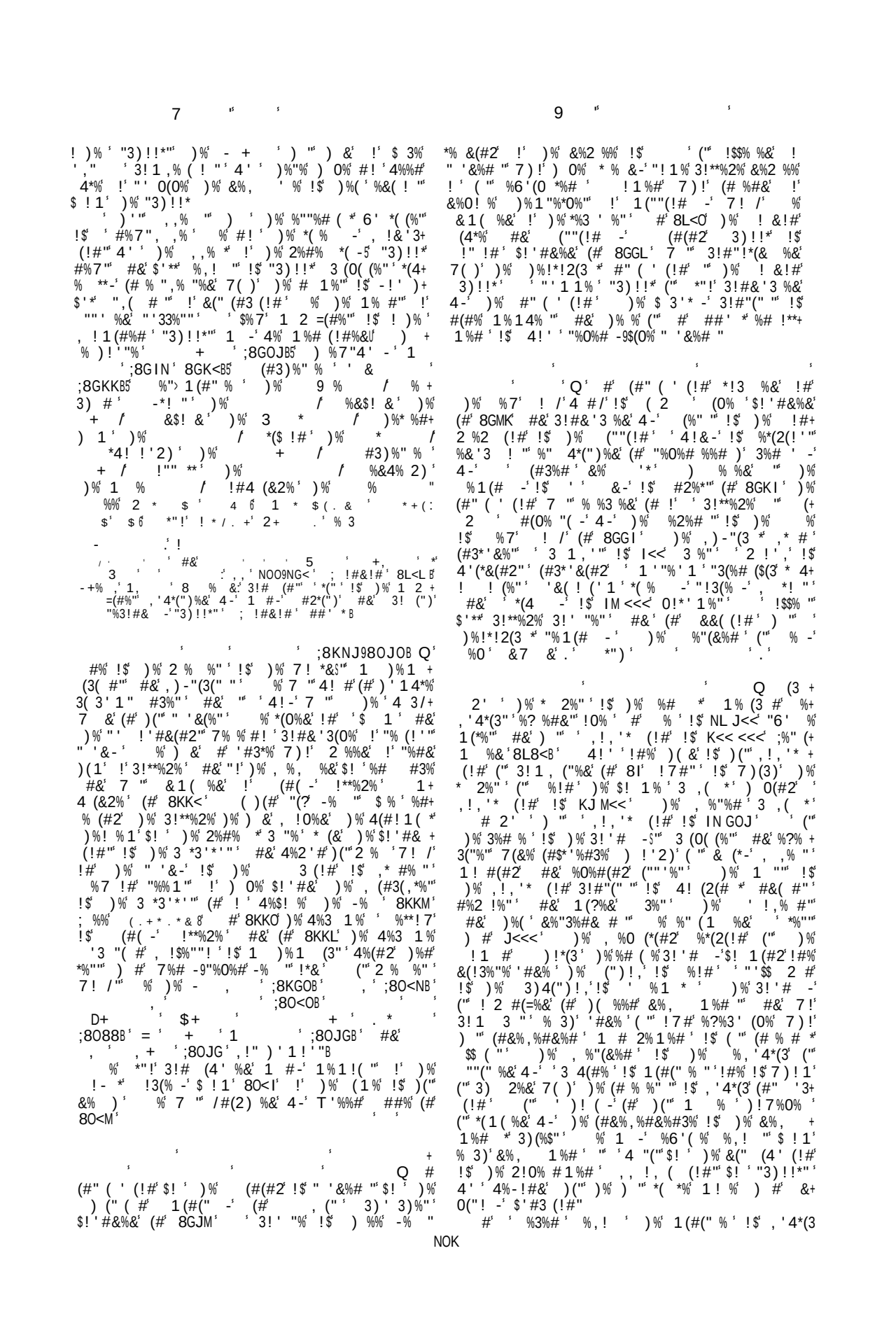

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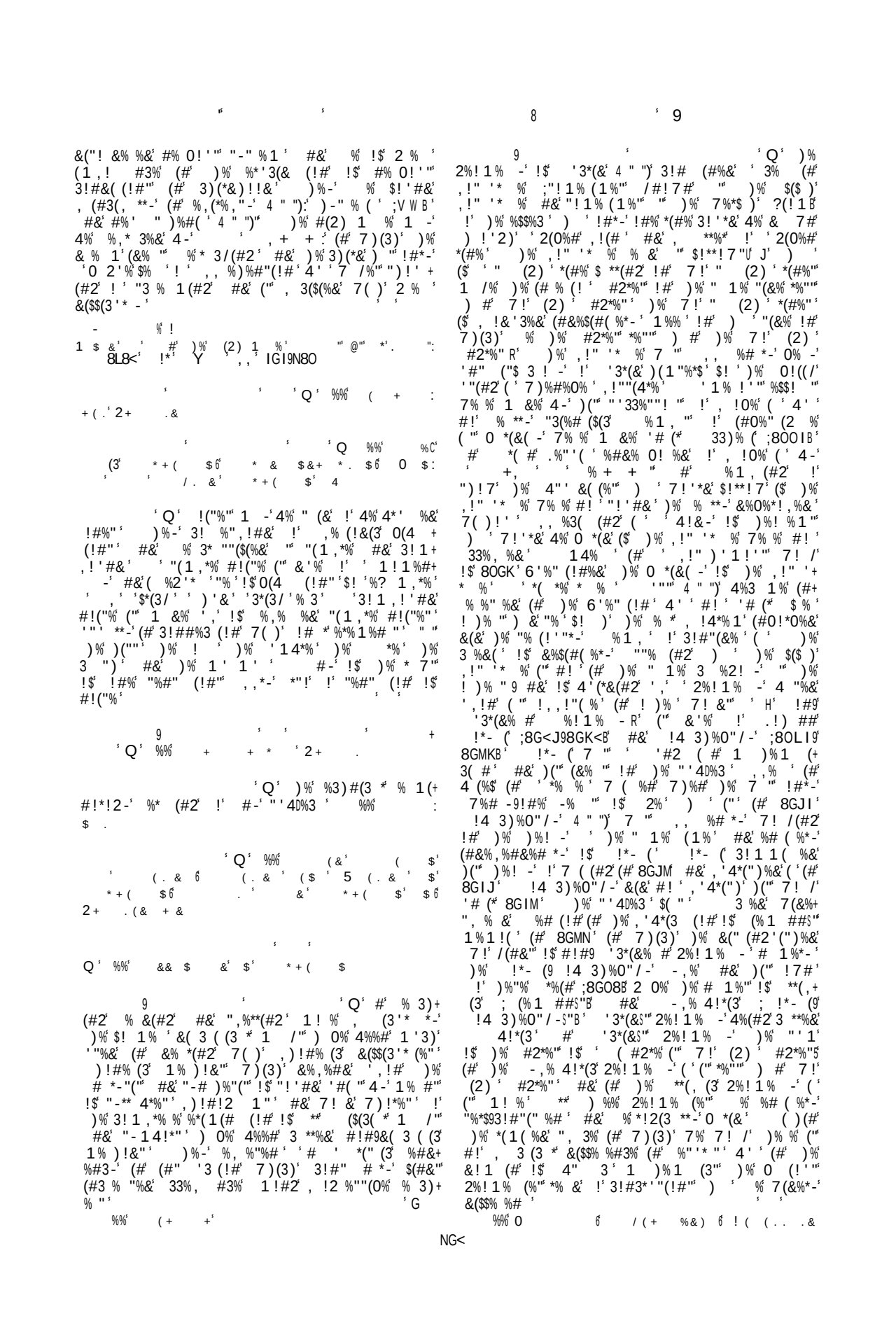

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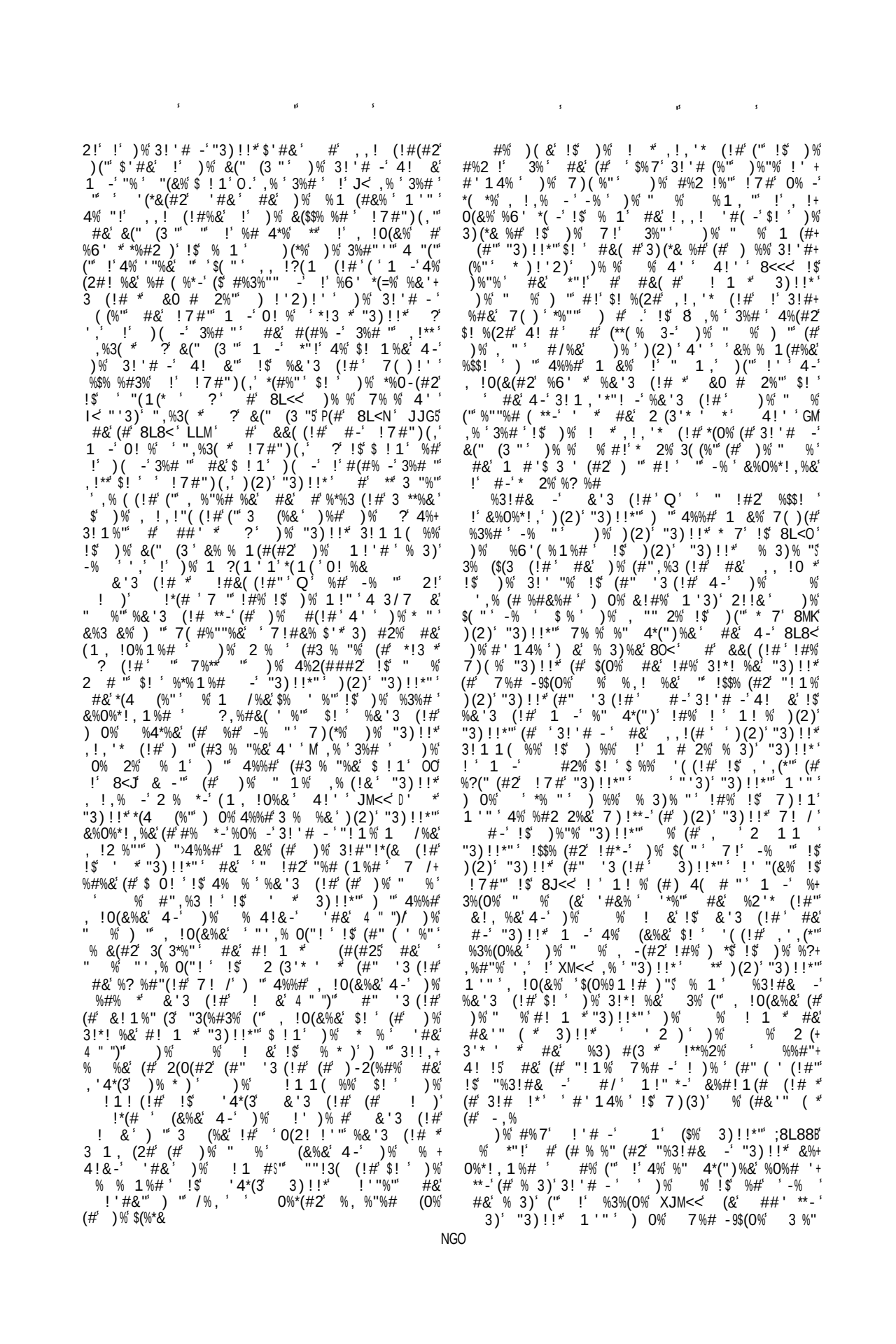

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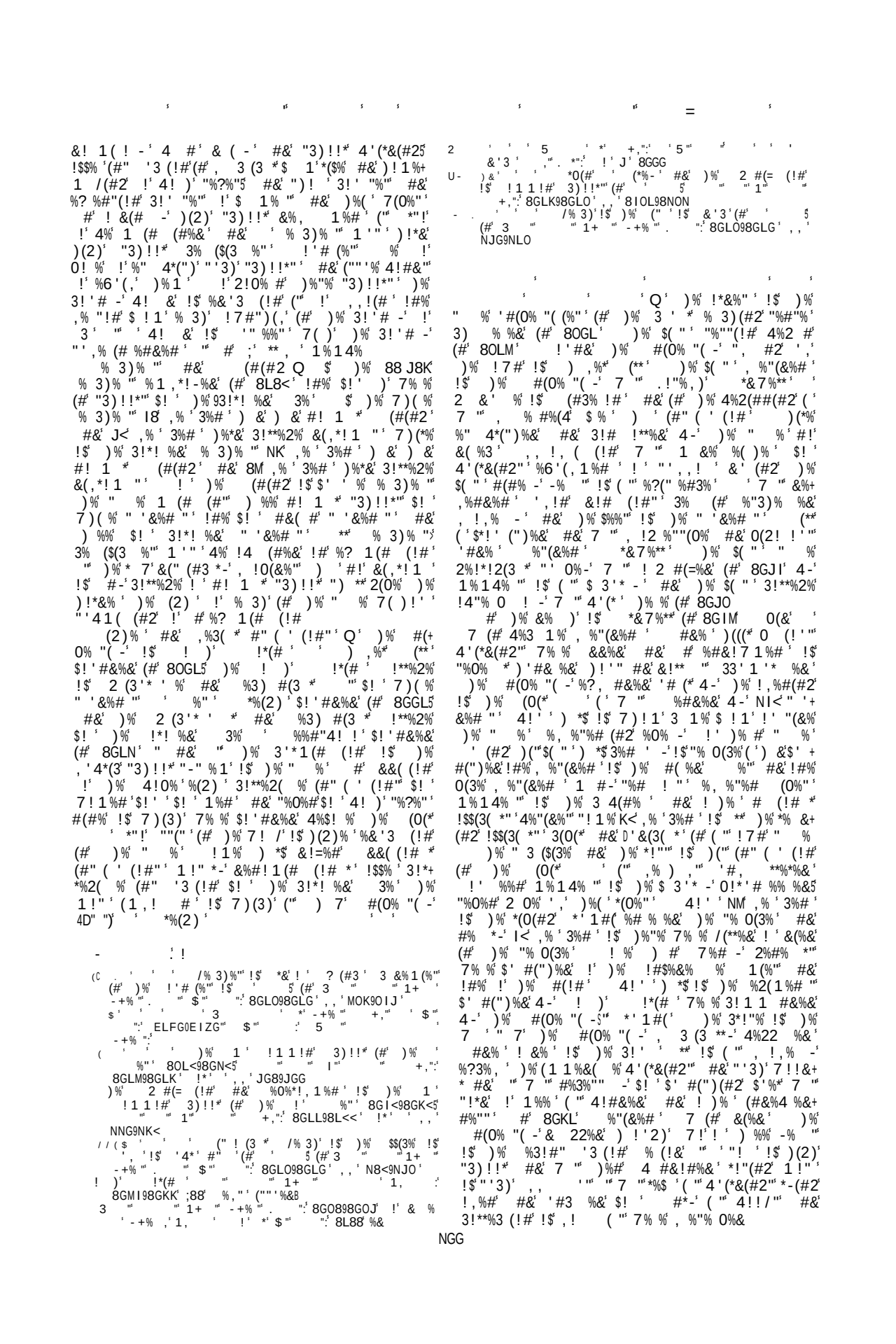

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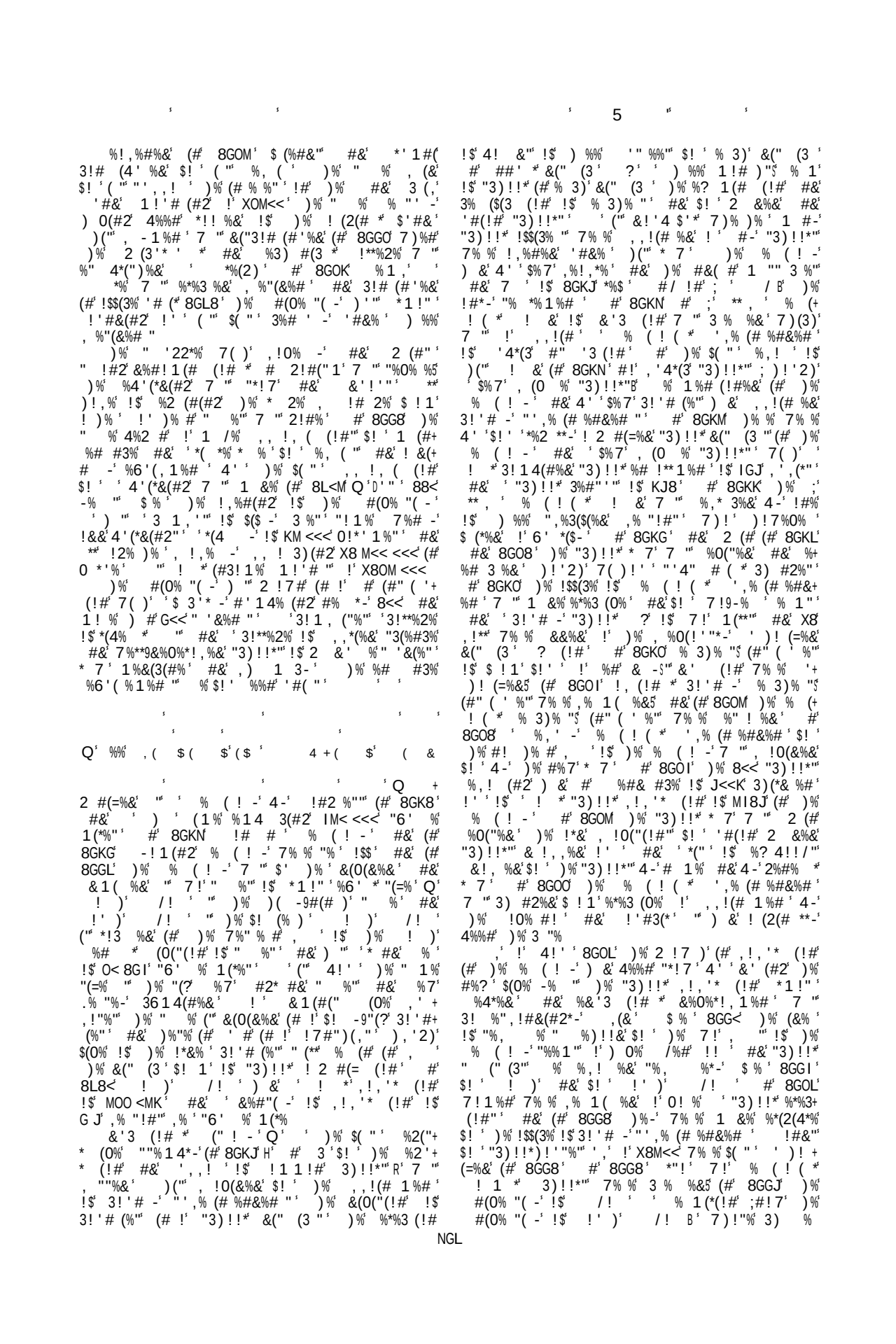

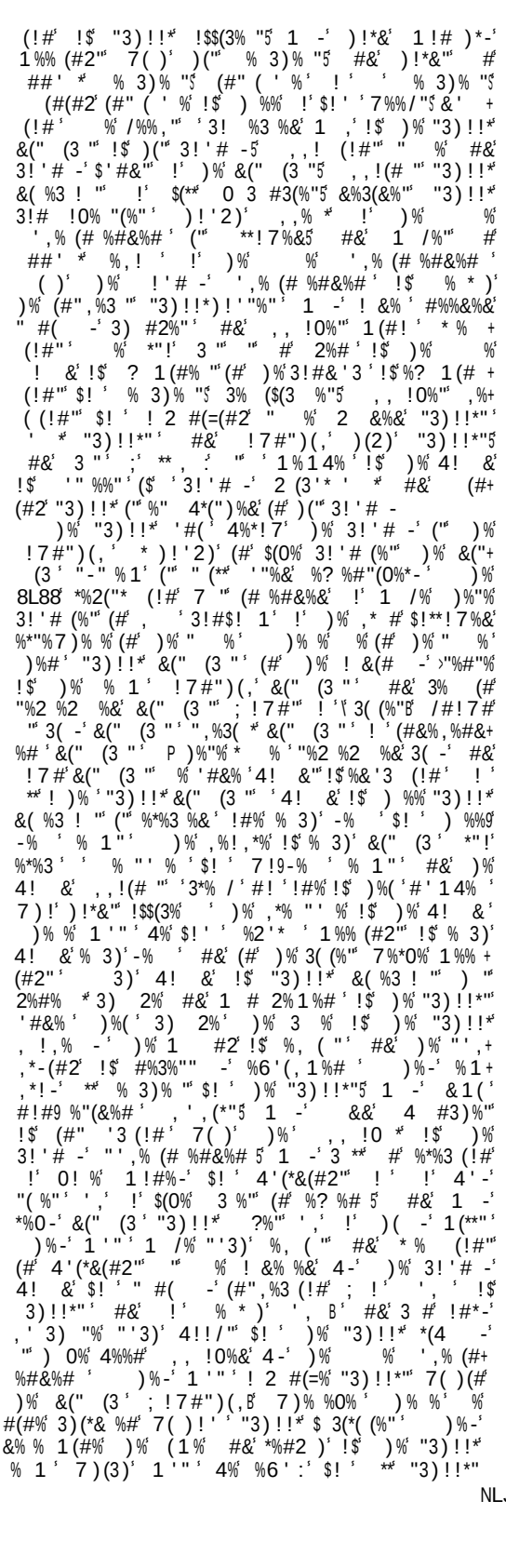

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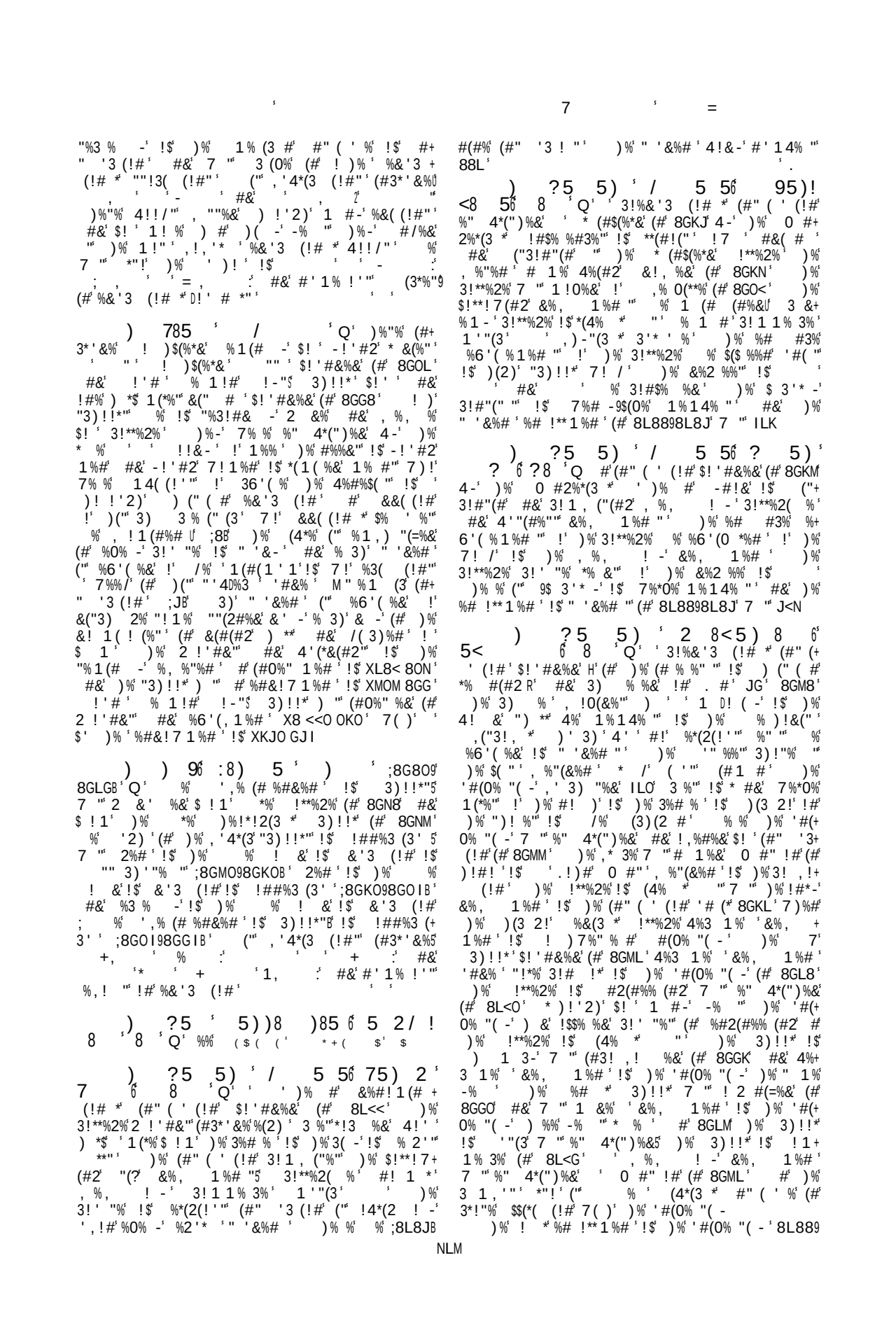

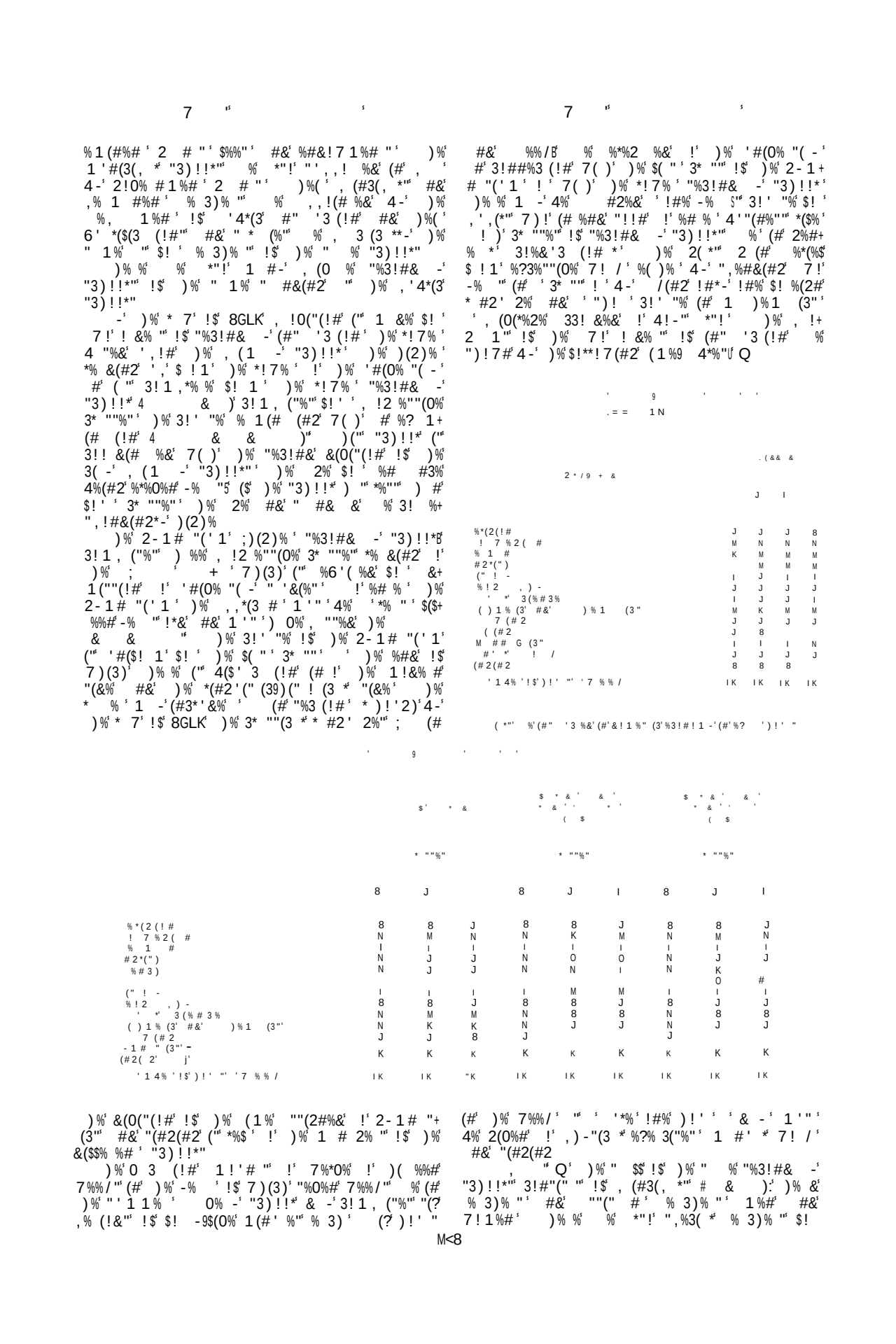

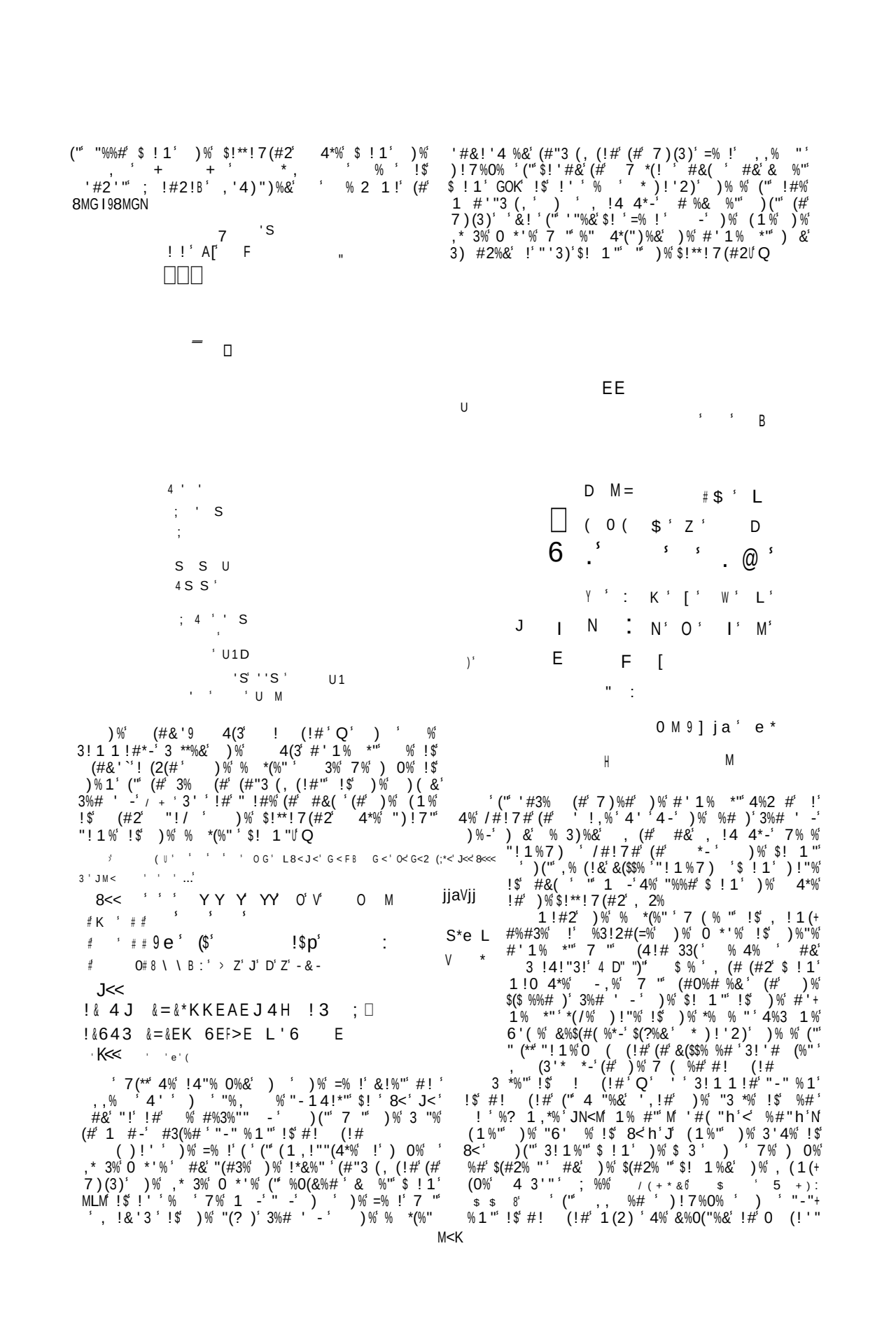

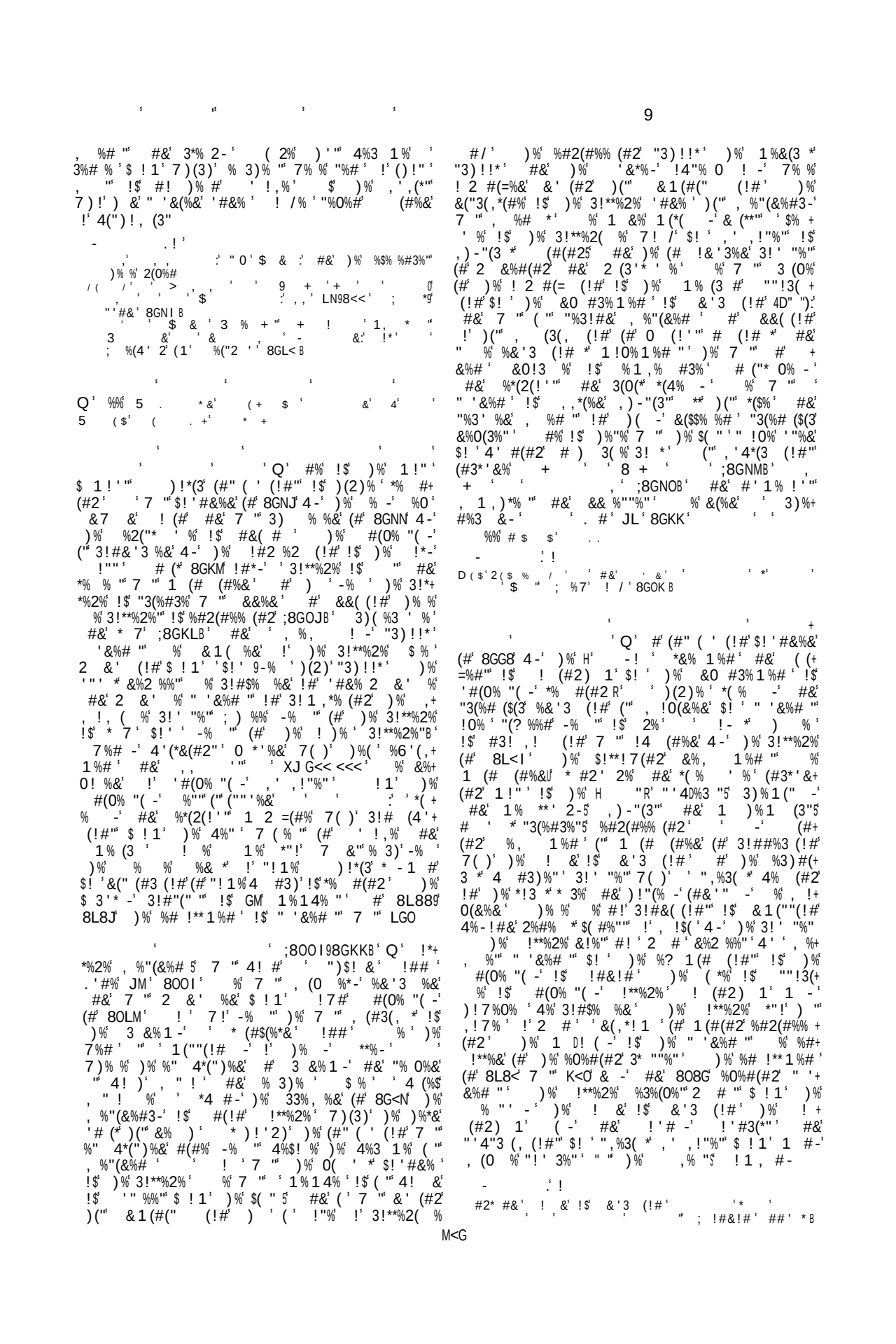

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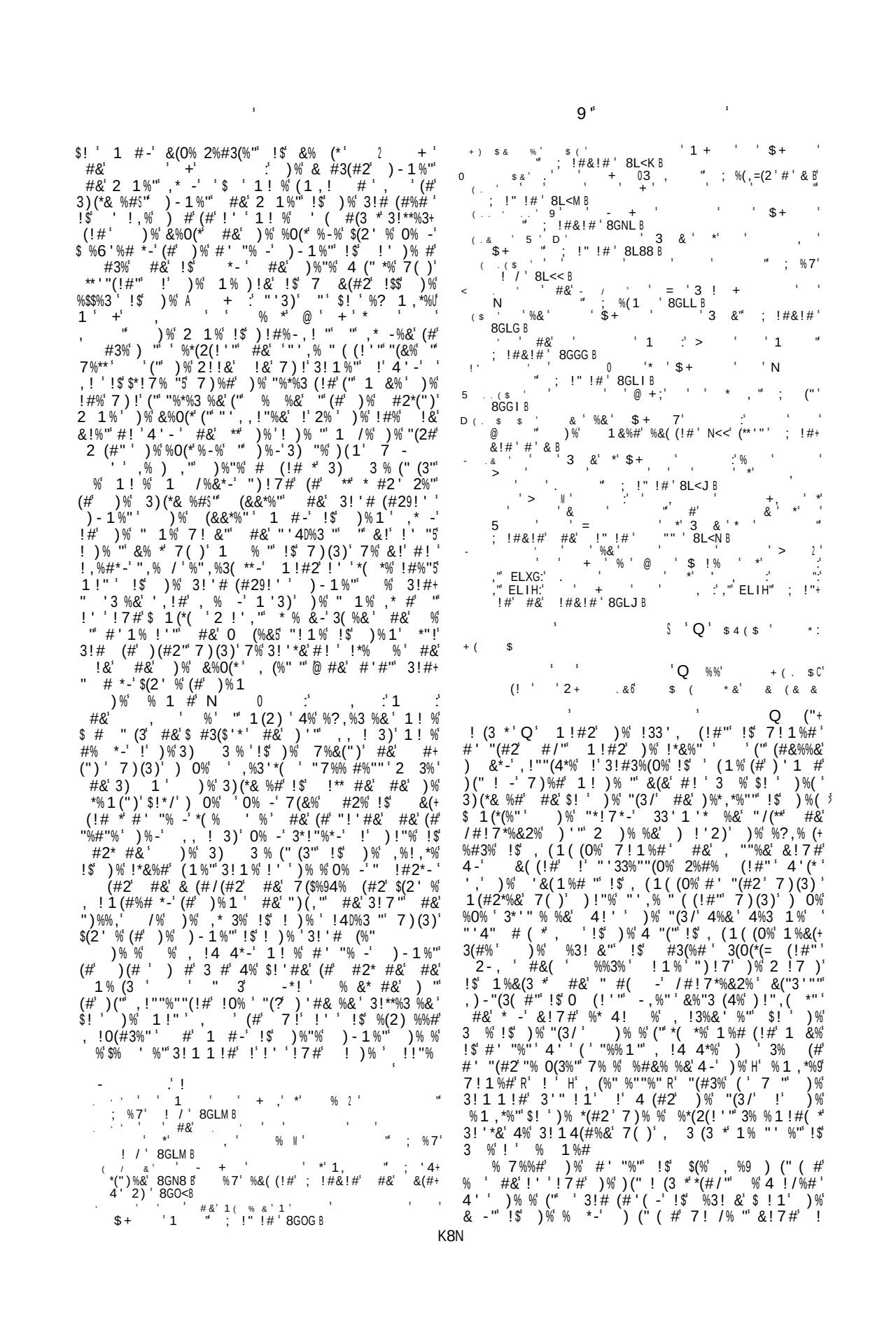

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)!#! 4*%‘ %3! &‘ !$‘ "% 0(3%‘ (#‘ %,(&%1(3"‘ 7 ‘ #&‘ !)%‘ &(" " % "‘ #&‘ "%0% *‘) 0%‘ 4%%#‘ &%3! %&‘ 4-‘ #3%‘ 7( )‘)%‘ %2(!#‘ &‘ !#9‘ #%'‘ * !2%)%‘)%‘ %3! &"‘ !$‘)%‘ %*(2(!'"‘ #' "(#2‘ ! &% "‘ % 1!#2‘)%‘ 1!"‘ ",*%#&(&‘ , 2%"‘ (#‘)(" ! -‘ #&‘)%(‘ 3!# (4' (!#"‘ !‘)'1 #‘ 7%*$ %‘ 1!#2‘)%‘ 1!"‘ 0 *' 4*%

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(#% %%#)‘ %# ' -‘ %$! 1"‘ ("% 7%) ‘ Q‘)(*%‘)%‘ 3 ' *‘ %$! 1‘ (#‘ #' "(#2‘ 4%2 #‘ 7( )‘)%‘ $!'#&(#2‘ !$‘)%‘ 3)!!*‘ $! ‘ % 3!#+ %""%"‘ ‘ ("% 7%)‘ !#‘)%‘)(# ‘)% %‘ 7% %‘ 0 (!'"‘ $ 3 ! "‘ #&‘(#$*'%#3%"‘ *% &(#2‘ ', ‘ !‘ (‘)%‘ 8!# (#'%&‘ %?("%#3%‘ !$‘ "1 **‘ 2 !',"‘ !‘ 3!1 1'#((%"‘ !$‘ 7!1%#‘ "%*%3 %&‘ !‘ 7! /‘ 1!#2‘)%‘ "(3/‘ ,!! ‘ '"' **-‘ (#‘ 3!##%3 (!#‘ 7( )‘)%‘ 3) ' 3)‘ !$ %#‘ 3!#"%3 %&‘ 7( )‘ %*(2(!'"‘ 3% %+ 1!#(%"‘ ")!7%&‘) ‘)%‘ ! &%‘ !$‘ &% 3!#%""%"‘) &‘ #%0% ‘ 7)!**-‘&(%&‘ 4 ‘ ‘)%‘ $! 1‘ !#*-‘) &‘ 3) #2%&‘)%‘ ",((‘ #&‘ "% 0(3%‘ %1 (#%&‘ #&‘)%"%‘ 2 !',"‘ !$‘ 7! /%‘ "‘ 1!#2‘)%‘ "(3/‘ #&‘ ,!! ‘ 7% %‘ 0(' **-‘ &% 3!#%""%"‘ ‘)%‘)!,%‘ !$‘ %0(0(#2‘)%‘ #3(%# ‘ 3)' %)*-‘ ! &% ‘ 7 "‘ $ %6'%# *-‘ %?, %"%&‘ 4-‘ "!1%‘ !$‘)%‘ 3*% 2-‘ &' (#2‘)%‘ %(2) %%#)‘ 3%# ' -‘ #&‘ , 1,)*% "‘ 7% %‘ 7 (%#‘ ' 2(#2‘ (! ',"‘ !$‘ "'3)‘ 7! /%‘ "‘ 7% %‘ "%%#‘ 4-‘ " ! ‘ *%&#%‘ ‘)%‘ $!'#&%‘ !$‘)%‘ ("% 7%)‘ 3)!!*"‘ 1!#2‘)%‘ ! 0(#"‘ #&‘ %##!#(%"‘ (#‘ !** #&‘ #&‘)%‘ , !$!'#&‘ (1, %""(!#‘)%-‘ 1 &%‘ !#‘)(1‘) &‘ &!'4*%"‘ ‘ &(%3‘ (#$*'%#3%‘ (#‘)%‘ $! 1 (!#‘ !$‘)("‘ ,* #"

' (#2‘)%‘ * %‘ , ‘ !$‘)%‘ %(2) %%#)‘ #&‘ % *-‘ (#‘)%‘ #(#% %%#)‘ 3%# ' (%"‘)% %

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1 ! %‘ 3*!"%*-‘ '#&%‘ 3*% (3 *‘ 3!# !*5 #&‘ %+ " (3 (!#"‘ %3!#! 1(3‘ !#‘)%‘ !#%‘) #&‘ #&‘ (#+ %**%3 ' *‘ #&‘"!3(*‘ !#‘)%‘ !)% ‘) 0%‘ ,* 3%&‘)%‘ !‘ ‘ !$‘)%‘ " % 1‘ !$‘ #‘ "(#2‘ , !2 %"‘" ‘ #‘ , (")‘ #&‘ 1(""(!#‘ 7! / ‘)!7%0% ‘ ")% (‘" " (*‘ #‘(1 , ! # ‘ #&‘ 4%#%$(3%# ‘$ 3 ! !1‘ ("% 7%)‘3 1%‘)% (1 ,% '‘" 7)(3)‘ %"'* %&‘ (#‘)% $(" ‘ %$$! ‘ (#‘ #2* #&‘ !‘ 2(0% , 3 (3 *‘ (#(#2‘ !‘ #' "%"‘ "‘ *(= 4%)‘ -‘ 0("(%&‘ ("% 7%)‘ (#‘ 8GN<‘ #&‘ 7 ‘ "!‘ &%%,*-‘(1 , %"'%&‘ 7( )‘ (‘ "-" % 1‘ #&‘ 1%) !&'‘) ‘ !#‘)% ‘ % ' #‘ ")% 4 !'2) ‘ 4! ' ‘)% %" 4*(") 1%# ‘ (#‘ !#&!#‘ !$‘ #‘ #" (' % $! ‘ ' "(#2‘ 7)(3)‘ 7 ‘ 3!##%3 %&‘ $! ‘ , 3 (3 *‘ , ' ,!"%‘ 7( )‘ '-$‘ !",(*‘ #‘ 8GNG‘ .!)#$‘ !'"%‘ #‘ #2*(3 #‘ ' "(#2‘ &% ‘ #&‘ 3!##%3 %&‘ 7( )‘ (#2‘ !**%2% !",(*‘ 7 ‘ $!'#&%&‘ (#‘ !#&!#‘)% ‘ ,%*(1(# -‘ ,* #‘ 3 *‘ (H‘ ‘ 3!**%2(% (#" (' (!#‘R‘ !‘ , %, % $! ‘ 7! / 1!#2‘)% "(3/‘ %0% *‘ 7 (% "‘ ,)-"(3(#‘ #&‘ !)% ‘ &("3'"%&‘ (#‘)% ,% (!&(3 *‘ #&‘ , %"‘ !$‘)% % *-‘ #(#% %%#)‘ 3%# ' -‘)% %&'3 (!#‘ !$‘ 7!1%#‘ $! ‘)%3 % !$‘)% "(3/‘ #&‘ !')%-‘ 3!# (4' %&‘ (#‘)(‘ D+ ‘ ‘1 , ‘ #‘ (# % %" (#2‘ #&‘ "'22%" (0% , %"%# (!#‘ !$‘)% "'4D%3‘ ‘(‘)%#‘ , ,% %&‘ * #"‘ , !D%3 "‘ #&‘ 3 ' *‘ %$$! ‘) &‘)!7%0% ‘ !#%‘ &(" (#3 (0%‘ $% ' %‘)%-‘ , !0(&%&‘ ‘ %*(2(!'‘" ! ‘ "%1(%*(2(!'‘" ! &% ‘ !$‘ 7! /% "‘ #&‘ %, !&'3%&‘ 7( )‘ 1! % ! ‘ *%"‘" $(&%*(-‘)% $! 1‘" !$‘)% , ")% ! /‘ !$‘ *! #%3% (2) (#2 *%‘ Q‘)% 3 % (!#‘ !$‘ ‘ #%7‘ ! &% ‘)% %" 4*(") 1%# ‘ !$‘ #%7‘ , (#3(,*%"‘ #&‘)% $!'#&(#2‘ !$‘ ‘ "-" %1‘ !‘ &%0%*!,‘ #&‘ ,% ,% ' %)%1‘7 "‘)% 7! /‘ !$‘ ‘$ 1!‘" #2*(")‘ 7!1 #‘ *! %#3%‘ (2) + (#2 *%‘)(*% ("‘ (2) (#2 *%(‘" 4%" ‘ /#!7#‘) !'2)!‘))% 7! *&‘$!‘)% ‘ %1 / 4*% 7! /‘ (#‘ 1-‘ #' "(#2‘ #&‘ " #(-‘ %$! 1‘ &' (#2‘)% (1% #‘ 7 ‘)% ‘ 2 % %" ‘ 3!# (4' (!#‘ !‘)'1 #‘ 7%*$ % 1'" ‘ %0% ‘*(% (#‘)% "-" %1‘ !$‘ %&'3 (!#‘ (#‘ #' "(#2‘ 7)(3)‘ ")% ! (2(# %&' %" 4*(")%&‘ #&‘ 0(' **-‘ %#&!7%&‘ ‘ ‘)!1 "$‘" !",(*‘ !#&!#‘ (#‘ 8GK<‘ ("‘" (2) (#2 *%‘ ;4! #‘ (#‘ 8GJ<$‘ 3 1% !$‘ ‘$ 1(*-‘ !$‘ 7% *) ‘ "!3(*‘ ,!"((!#‘ #&‘ ,'4*(3‘ ",((‘)% 7 "‘)(2)*-‘ #&‘)! !'2)*-‘ %&'3 %&‘ (#‘ 1)%1 (3"‘ # ' *‘ "3(%#3% ‘3* ""(3"‘ #&‘ * #+ 2' 2%"‘ #&‘) &‘ 0%*%&‘ %? %#"(0%*-‘)% 7 "‘ 4-‘ # ' %‘ ‘ " '&%# ‘ #&‘ #‘ (#0%" (2 ! ‘ %$'* 1%# *‘ (#(#2‘ #&‘ &("3(,*(#% ,* 3%&‘)% ‘ (#‘ ‘ ,!"((!#‘ !‘ 7! /‘ %$%3 (0%*-‘ #&‘)% ‘ # ' *‘ (# % %" ‘ (#‘)% "(3/‘ 7)(3)‘ 7 "‘ &("+ ,* -%&‘ ‘ #‘ % *-‘ 2%‘ *%&‘)% ‘ !‘) ‘ , !+ *!#2%&‘ #&‘ "% 3)(#2‘ " '&-‘ ',!#‘ 7)(3)‘)% ‘ 4 (**(#‘ 3)(%0%1%# "‘ (#‘ " #(-‘ #&‘)!",(+ *‘ %$! 1‘ %" ‘)% "!'2) ‘ %0% -‘ 0 (* 4*% !,,! '#(-‘ $! ‘ ,% "!# *‘ !4"% 0 (!#‘ #&‘ " '&-‘ !$‘)% "(3/‘ $! ‘ , 3 (3 *‘ %?,% (%#3% ‘ 7 "‘ 7(3% ‘ ("% 7%)‘ (#‘ (#(#2‘ #&‘ &%0! %&‘ -% "‘ !‘ ‘ 3 %$'*‘ #&‘ %?) 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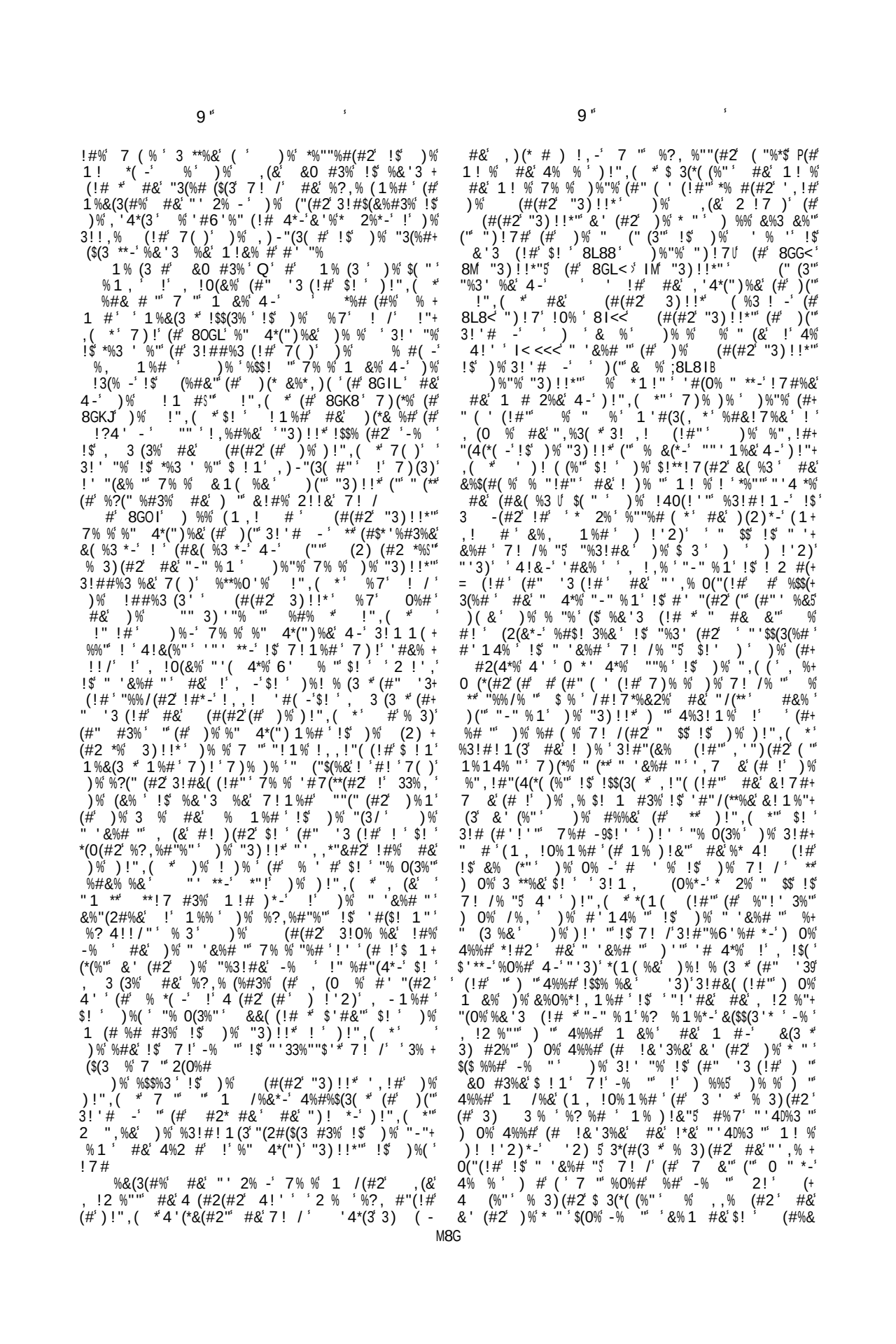

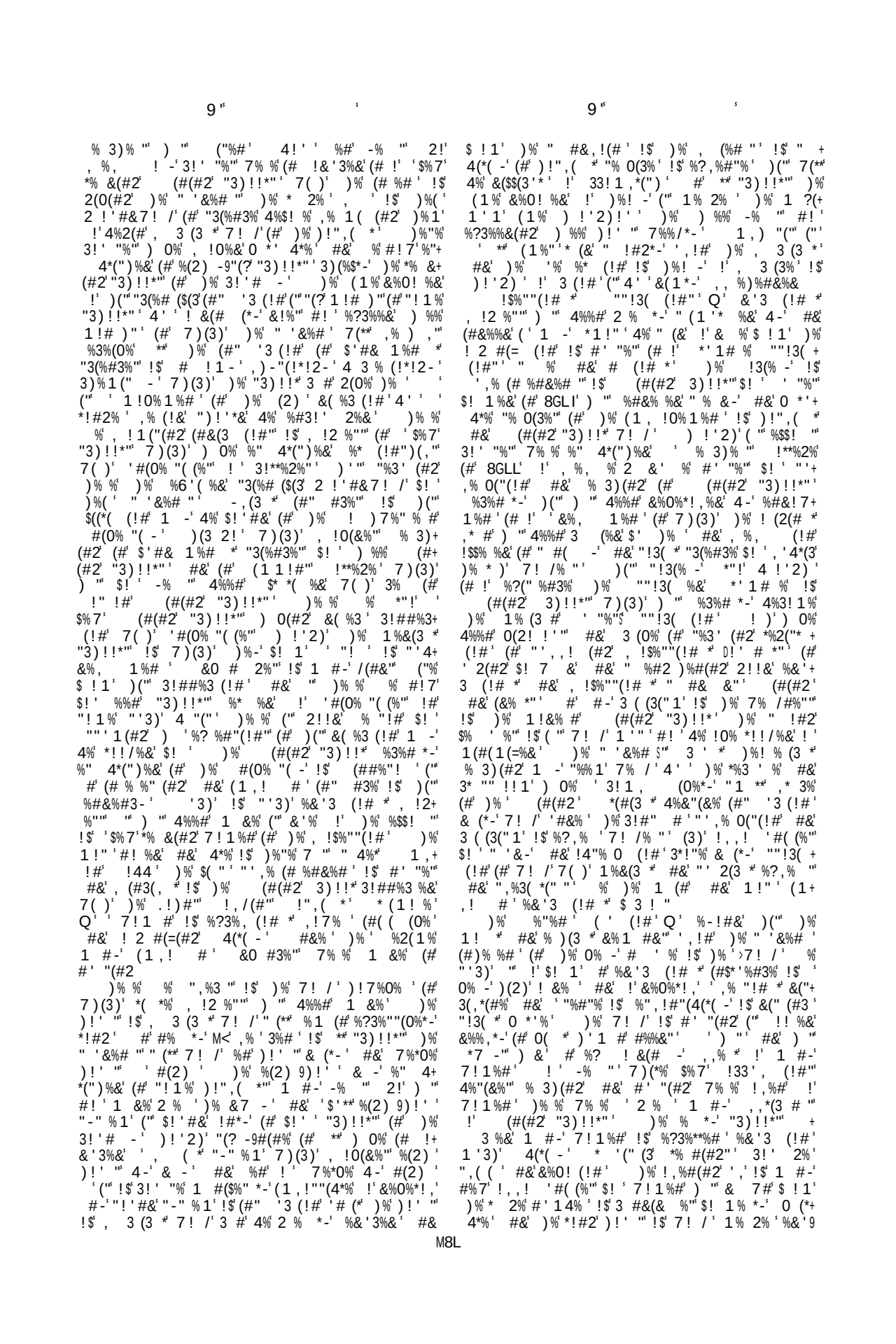

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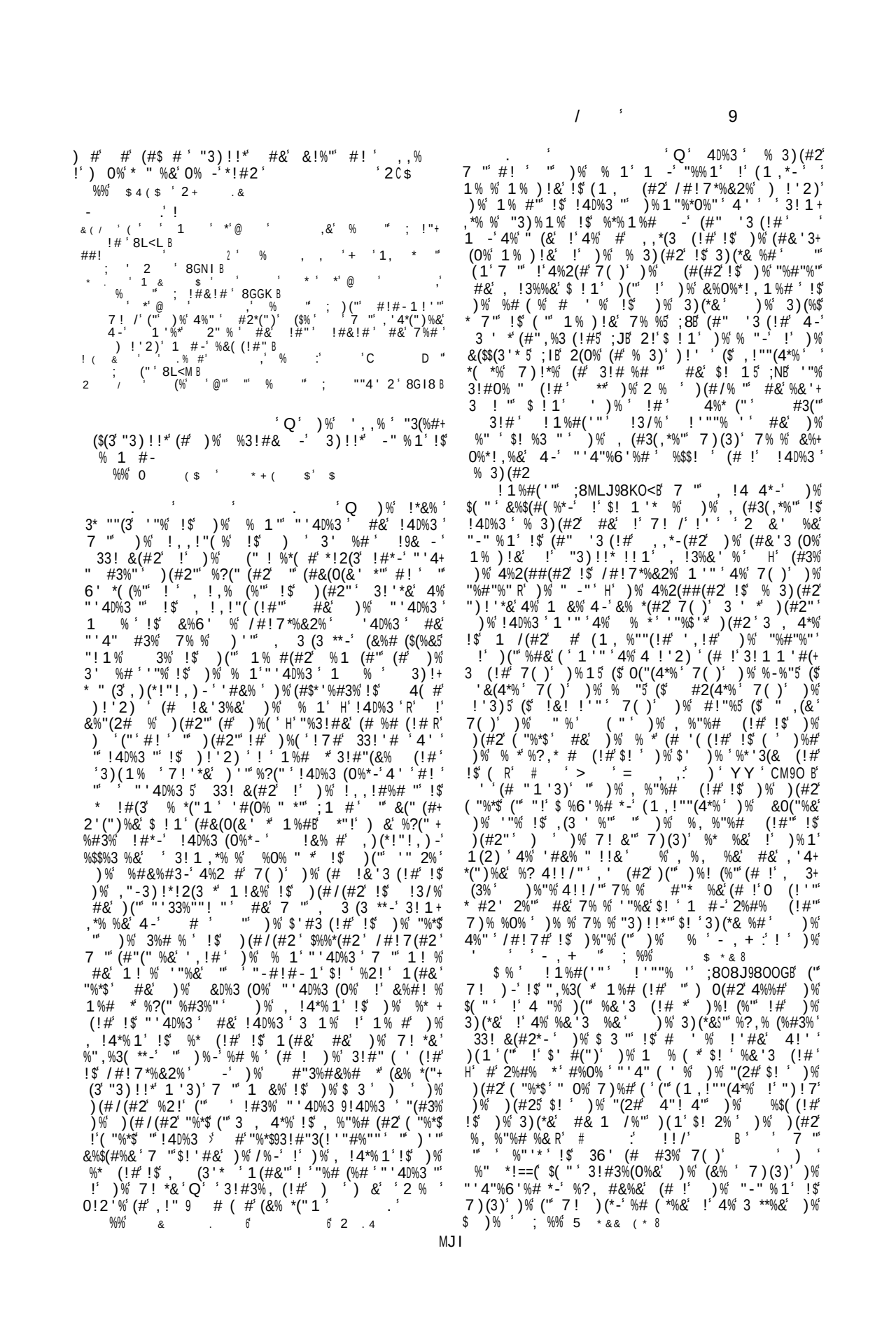

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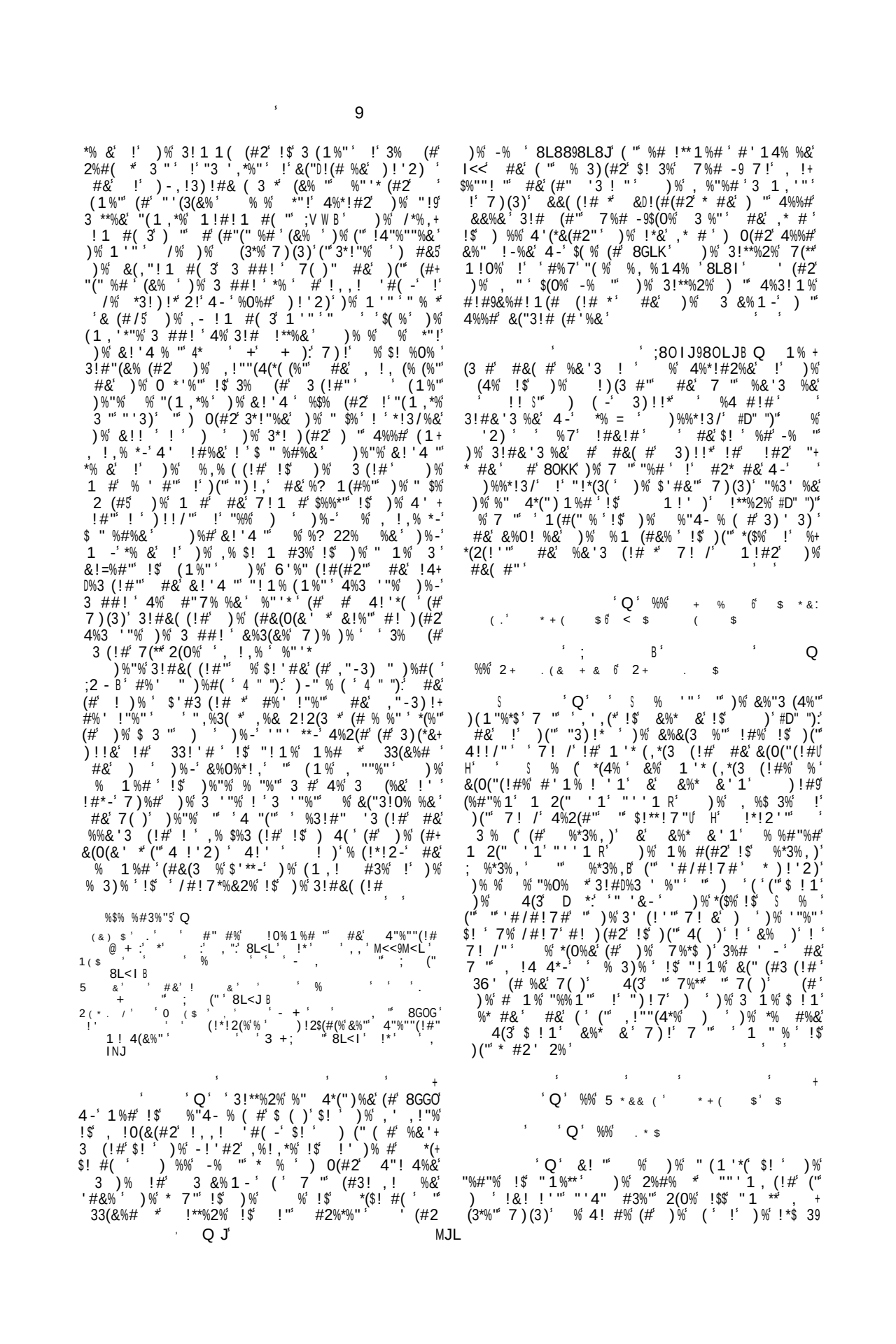

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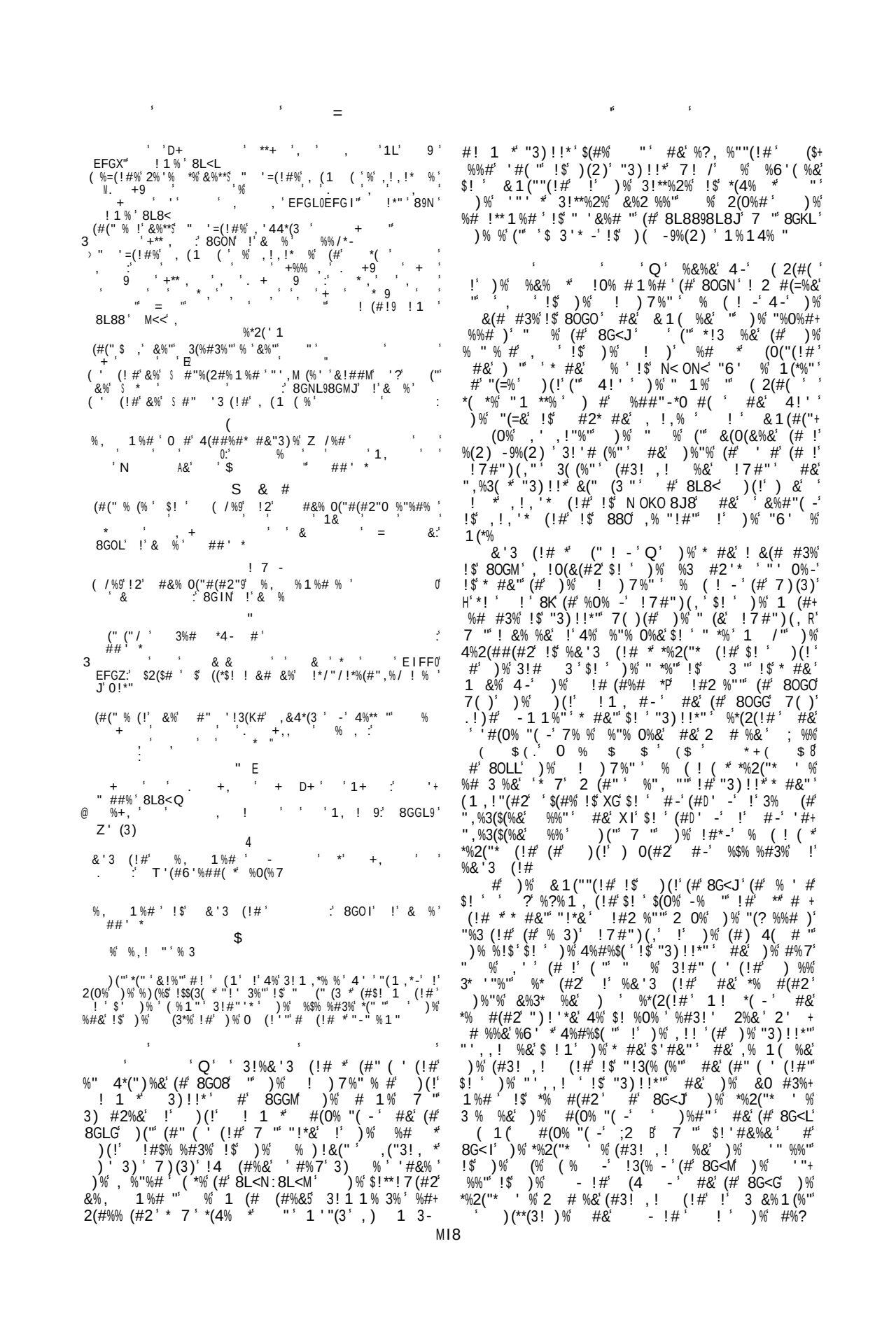
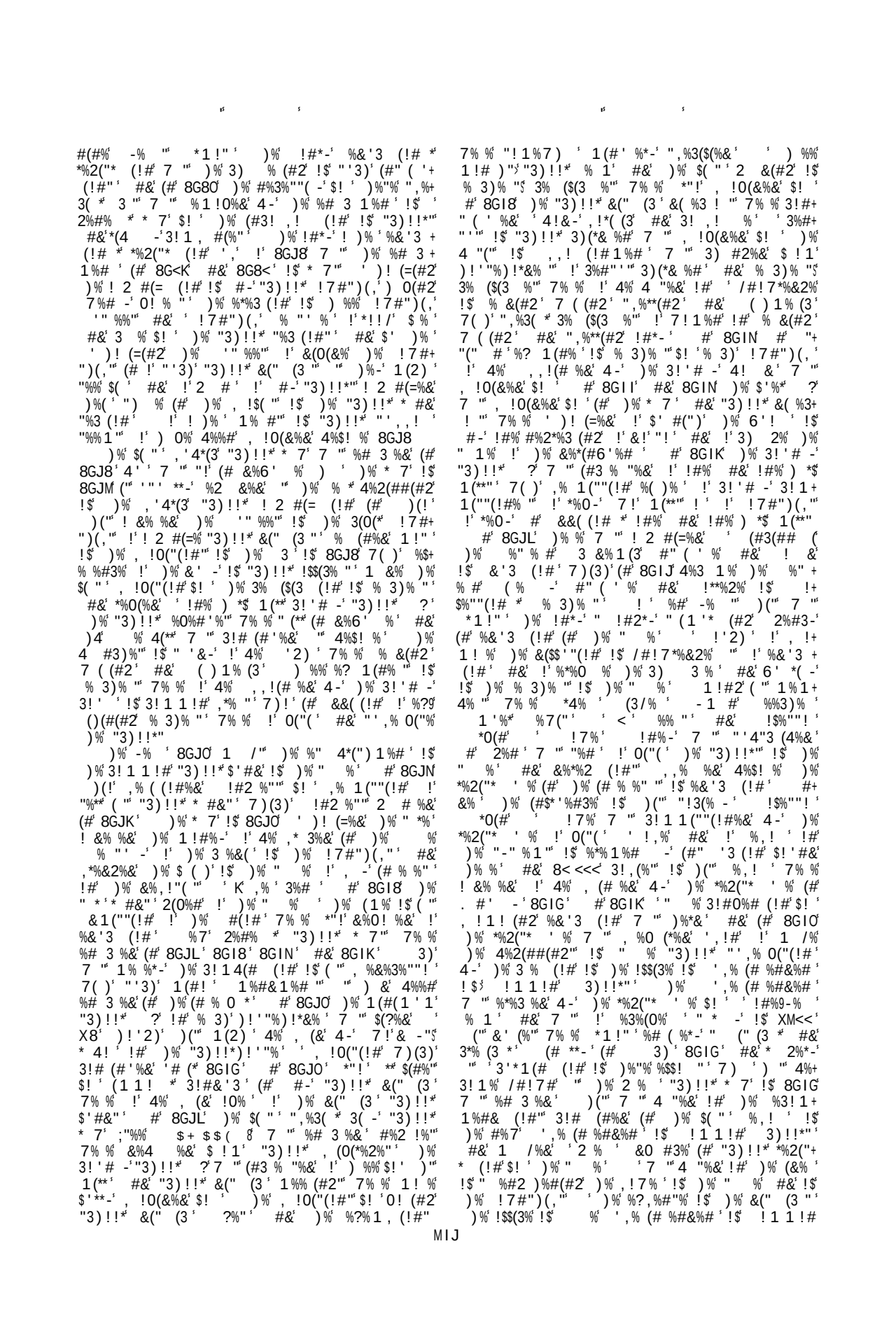


MI8



MIJ

3)!!*"7 "3!#(#'%&'4''3)#2%&'!'')%%9-%',,!(#1%#'#&')%""*-'(#3%"%&'!X8J<<'"3%&'"&("(#3'$!1'))%3!11!#"3)!!*$'#&7"3%&'!'7#")(,'$'#&'%"4*(")%&'(#8GJO'#')("#%7'$'#&'7%%,*3%&')%"*'*#&"'&%0!%&'!'%&'3(!#(#8GI8(#%%"',*'"%0%#'%'&("(4'%&'(#8GIO';"%%(($(.'0%$$'($'*+($8(5)%"%5"%0%#'%'$!1'4#/"'(#"'#3%'#&'4(&2%3!1,#(%"'#&'"!1%(#!'"!'3%"!$'(#3!1%')%'(#3!1%'!#**!$')%"%'(%1"1!'#%&'!'4!''XJ<<9<<<'-%'#&')("7"!'4%&("(4'%&'!')%!7#")(,"!#')%4"("!$')%"3)!!*3%#"'"'%"3)!!*?!$'!#%')*$1(**7"$'%0%*'%$%7'&-"*%'#&')%%6'(%&3!'#-'"3)!*?7"(#3%"%&'!'7!'1(**"'!'%0%-'!7#")(,'3*%/'7"1&%;'**,'!7#")(,'"',%(#%#&%#'!$"3)!!*"7()'')%'"'*"',%0("!-'&'(%"'%7"*"!'!%"(1%)%1!#%-'#%%&%&'!',!0(&%'"(?1!#)"$%1'!$"3)!!*'#&'!"'41(')%0!%"'!$')%7#")(,')%6'%(!#!$*%0-(#2')%?')%!7#")(,'%"'%'7"*"!'2(0%#)%3'"!&-'!$**"%3!'#-'#&'!7#")(,'"3)!!*$'#&"')%&("(3'%"'%4%(#2'*%$'!#*-')%&("(3'?%"$!'4'(*&(#2'$'%*'#&'$'#('%3)!!*&(%3!"'!!'7%%2(0%#2'%(#&%,%#&%#3%!$3(!#')%-'3!'*&#!7'*%0-'##'**-'?!$XJ<$!'(#3(&%#*%?,%#"%"7()!''%3(!#!$')%"#3(!#!$')%&("(3'1%%(#2'#&')%!*&*(1((!#!$')%&("(3'?(!#!$"%"(&%#'',!,%-')!*&%"7"7()&7#'**0!%"7%%#!7'&1(%&'!')%&("(3'1%%(#2"3)!!*&(%3!"'')!(=%&'!'%"3)!!*$'#&"')%&("(3'%"'%1(#%'7)'2%"3)(*&%#3!'*&4%&1(%&'!"3)!!*#&'!',%1('(#"'3(!#(#'$!%(2#*#2'2%;%1#B'('(%"#&'!7#"7%%&%3*%&'"%,'%"3)!!*&("(3"'7)%%(#')%%*%3!"'7%%'!'3)!!"%%()%')%%&(%3!"'$!')%7)!*%3(-'!'!7#'!'!#%$'%3)"'4&("(3';"3)!!*B'('(%3!"'(#3(%"#&'!7#"7%%%1,!7%%&'!'%"4*(")"3)!!*"!$&($%%%#'2&%"'#&'!'1/%'*%"#&'%2'*(!#"$!')%(1#2%1%#)%'*7'!$8GIG7")%$("'3!1,%)%#"(0%"3)!!*'7'$!')%"%'#&'7"(#')%&(%3+(!#'!$'"!#2'#&%$$(3%#'%&'3(!#*&+1(#("(!#'7"')!7%0%'*(/%1'3)'2!!&%*-'*%2("*(!#'(#&0#3%!$',4*(3"%#(+1%#'#&')%*7'7"!!#1%(**-'1!&(+$(%&'#8GIL')%3!'#-'3)!!*?7"3'(#')%*$')%!7#")(,'?%"7%%%&'3%&'#&')%'&,!7%"7%%1%(**-'*%""%#%&'#8GN<)%!$$(3%!$%',%(#%#&%#'!$!1!#%3)!!*"7"4!*(")%&'#&')%&'(%"!$')%!$$(3%#"$%%&'!')%%3%-'!$%')%3*'"%(#')%*7'%6'((#2'%&(#2'7(+(#2'#&'()1%(3'!'4%'2)'(#')%#2+*(")'*#2'2%'"%,%*%&'#&'%1#&("+(3'"3)!!*"7%%!2#(=%&')%$("'%1,'''2&%&'3!'"%'!$"'&-'7"("+"''%&')("-%'#8GNJ')%%#'1%(!#'!$'3)(*&%#7"/%#$!1')%!7#")(,"',%+(#%#&%#'#&'%"!%&'!')%&("(3'3*%/"'#&')%%1'!$')%&("(3'"3)!!*&(%3!7"*%#2)%#%&'$!1')%!7#")(,"',%+(#%#&%#'#&'%"!%&'!')%&("(3'3*%/"'#&')%%1'!$')%&("(3'"3)!!*?7"$')%%#'1%(!#'!$'3)(*&%#7"/%#

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(=%&$ #&$ 4! &"# !$* 3(-$ "3)!!* %? 1(#% "# 7% %$ 3 % %&$ (** * % $ 0(** 2% 4! &"# !$ %? 1(#% "# 7% %$ *"!$ 3 % %&$ "!$) $ *(*%$ %?3%, $)%$ 2 # (#2$!$" ' * 3% ($(3 %"# 7 "# *%$ $!$)%$ 3!'# -$ 4! &"# !$* %? 1(# (!#$ #$ 8GGM)%$ '#(!#$!$" !7#")(,$ 0(** 2% #&$ ",%3(* &(" (3 "# !$ 1 (# (#$ $)(2)$ "3)!!* 7 "# ,% 1(%&$ #$ 8GGO)%$ * 7"# %6'((#2$ "%, %$ "3)!!*"# $! $ 3!*! %&$,'(*"# 7% %$ %,% *%&$ #$ 8GGL)%$ ("$ 3! 1, %)%#"(0%$ "3)!!* * 7$ 7 "# %# 3 %&$ #&$)(" 7 "# 1%#&%&$ #&$ " %#2)%#%&$ (#$ 8GL<$ 8GLI$ 8GLG$ #&$ 8L<J$ #$ 8GL8 #$ %?+ ,% (%#3% 6' *($(3 (!#$ 7 "# (1,!"%&$ $! $ 1%1+ 4% ")(,$!#$ 3!'# -$ 4! &"# !$* %? 1(# (!#$ #$ 8GGM)%$,% (!&$ $! $ %? 4!!/$ &!, (!#"$ (?%&$ $ 7!$-% "# 4-$)%$ ("$ *%2("* (!#$!#$)%$"'4O%3$(#$ 8GO8$7 "#(#3 % "%&$!$($(0%$-% "$ #&$ 4! &"# !$* %&'3 (!#$ 7% %$ ')! (=%&$!$ 4'-$ %? 4!!/"# #&$ "', *(%"# #&$!$ $' #(")$)%1$!$,',(*"# $3!" $ #$ 8GL<$ "3)!!*4!!/$ 4! &$ 7 "# 3 % %&$!$, , !0%$ 4!!/"# #&$ ($(?$, (3%"$ #$ 8GL8)("# 4! &$ 7 "# ')! (=%&$!$ 3!# 3$ 7( )$ ')! 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(=%&$)% %$! $ #$ 8GLN 7!1%#$ 7% %$,% 1(%&$!$ 0! %$ "3)!!* %*%3+ (!#"$ #$ 8GLK)%$ #(%&$ %"# $* 2$ 7 "# %6'(%&$!#$ **"3)!!*)!"%"$ #$ 8GLG)%$ (3'* (!#$!$")%$ 3!'# -$ "3)!!*"# 7( )$)%$)(2)$ "3)!!*"# 7 "# "%3' %&$ 4-$ $* 7$, !0(&(#2$ $! $)%$ %? 1(#(#2$ #&$)%$ 7 &(#2$!$ &(,*!1 "# $)!"%$ 3!1,*% (#2$)%$ ' * "3)!!*"$ #&$,% + 1((#2$ #-$!7#")(,$ 4! &$!$, -$)%$ '(+ (!#$!$" ' * ,', (*"# $ $)(2)$ "3)!!*$ #$ 8GLG 7!$ &D 3%# $!7#")(,"$ 7% %$,% 1(%&$!$ '#(%$!$"', ,! $ $)(2)$ "3)!!*$ #&$ (#$ 8L<< #&$ 2 (#$ (#$ 8L<J$)%$, -1%#$!$)(2)$ "3)!!* '((!#$ 7 "# 1 &%$ 1 #& ! -$ #$ 8GLN)%$ 3%# *(= (!#$!$" "3)!!*"# #&$)% #",! + (!#$!$" ** ', (*"# !$ $ 3%# * "3)!!* 7 "# 4%2'# (#$ (#2"0(**%$!7#")(,$ ") 4'* $!'# -5 (#$ 8GLK)%$ " 1%, * # 7 "# ,% 1(%&$ (#$) %%$ 3!'# (%"5 (#$ 8GLG)%$,* # 7 "# ,% 1(%&$!$ 4%$, $ (#$!, % (!#$ #-7)%%(#$)%$" %5 #&$ (#$ 8L<< $ %0("%&$ * 7$ 2 0%$)%(#(((0%$!$)% !7#")(,$ 4! &"$! $ ($)%-$ $ (*%&$!$ %?% 3("%(5 !$)%$,%!,*%$ 4-$ (#(((0%$, !3%%&(#2" *)!'2)$ $ #'14%$!$ %3!11%#& (!#"$) &$ 4%%#$ 1 &%$ 4-$)%$ %$ 3)!!* !11("+ "(!#% "# *!!/(#2$!$)%$ %" 4*(") 1%#$!$ $ #! + 1 * "3)!!* $! $)%" % $)(!$!!/$ #!$ 3 (!#$ '# (* %3%# *-$ #$ 8GGK)%$ $(" $, , !, (+ (!#$ 7 "# 1 &%$ 3!#"(" (#2$!$ M<<< $ -% $!$)(!$ #(0% "(-$)%#"# !$ %" 4*(")$ % 3)% "$ (#(#2$ 3!' "%$)("# 7 "# &!#%$ 4'$)%$, , !, ((!#"# 2 %7$ " % &(*-$ *%"" $ #&$ (#$ 8GLK)%$ 3!' "%$ 7 "# & !, ,%&$ * !2%)% $ #$ 8L<< $ % $ 1'3)$ 2((!#$ #&$ $ % $ %3%(0(#2$, % ((!#$ 3!# (#(#2$!0% $ J< <<< "(2# ' %"$)%$ *%2("* ' %$(# **-$ 1 &%$)%$ $(" $, !0("(!#$ $! $ #! 1 * "3)!!*"# (#$)%$)(" ! -$!$)%$ " %$ " %$ 3!11(""(!#$ 7 "# , ,!(# %&$!$ *!3 %$!#%% " %$ #! 1 * "3)!!*$ #$ 8L<J$ 7!$ " %$ #! 1 * "3)!!*"# 7% %$ 3 % %&$ (#" % &$ 4-$ &&+ (#2$ $ #! 1 * "3)!!* &%, 1%#$!$)%$ 7!$ "1 **%$ " %$ '#(0% "((%"# (#$)%$ "!')% #$, $!$)%$ " %$ Q$ (1(#(0% "(-$ $?$! &$ #&$)(!$ #(0% "(-$ $)%$#"$ $ %$! 1 * 3)!!* !11(""(!#$ 7 "# *"!$ 3 % %&$ (#$ 8L<J$!$ 3!#"(&% $)%$ *!3 (!#$!$ &&((!# * #! 1 * "3)!!*"$)%$!11(""(!#$ %,! %&$ (#$ 8L<!$ %3!11%#&(#2$)% 3 % (!#$!$ $! &$!$ &'3 (!#$!$ $(0%$!$) 0%$ 3!# !*$!$)%$ "3)!!*"$ #&$!$ %?% 3("%$ $%7$!)%$ $'#3+ (!#"$!$ 3(!#$ 7 "# /%#$!#$)("# %3!1+ 1%#& (!#$ #$ 8L<K)%$ *%2("* ' % &%3* %&$ ($ "# "$ %, !*(3-$ $)%$)(!$ % #(+ 0% "(-$!*'14'"# 1(2)$ 1 (# (#$ % 3)% "$ 3!**%2%$ B' ")!'*&$ #%0% $ 1 (# (#$ % #! 1 * &%, 1%# $ #&$) $)%$ 7!$ " %$ (#" ('+ (!#"# (#$ "!')% #$)(!$ ")!'*&$ #! $, !0(&%(#" '3 (!#$ %? %#&(#2$ 4%-!#&$)% $ #&$)% $ &%2 %%"$)'"# 3*% *-$ &($$% %# ((#2$)% 7! /$!$")%$) %%$ " %$ (#" (' (!#"$ #$ 8L8<$ 7!$ &&((!# * " %$ #! 1 * "3)!!*"# 7% %$ 3 % %&$!$ 4%$ *!3 %&$ (#$ #! 1 * "3)!!* %$ #$ 8L<J$)%$ '14 '2)$ * 7$ 3* ""($-(#2$)% "3)!!* "-" %1$!$")%$ " %$ #&$, !0(&(#2$ $! $) %%$ 2 &%"# ! $ 3* """%"# !$")(2)$ "3)!!*"$ 7 "# %# 3 %&$ #&$)%$ 3)(&$ * 4! $ #&$ 3!1,'*"! -$ %&'3 (!#$ * 7"# 7% %$ %97 (%#$ #&$) 1!#+ (=%&$ #$ 8L<J$ #%7$ 1'#(3(, * 3!&%7$ 7 "# 1 &%$ #%3%"" -$ 4-$ $ "', %1%$ 3!' $ &%3("(!#$ #'**(+ $-(#2$)% *%O%* #&$ ",%3(* *%2("* (!#$ #&$ (#$ 8L<N $ #%7$ #&$ %0("%&$ "3)!!* 3!&%$)%$ $($)$ $! $)%$ " %$ 7 "# $! 1'* %&$ #&$, , !0%&$ 4-$)%$ *%2("* ' %$)%$ "3)!!* 3!&%$!$ 8GOI$) &$ 4%%#$ *1!"$ %# (%*-$ 3) #2%&$ 4-$)% 1%#&1%# "# !$)(-$ -% "$)%$ #%7$ 3!&%$ #! $!#*-$ 2)% %&$ ', $ #&$ 3* ""($(%&$)%"%3) #2%"$ 4'$ ("%*$ 1 &%$ #'14%$!$ &&((!#"# !$ (1,! #3%$)%$ "'4&(" (3$"-" %1$ 7 "# $(# **-$ %*(1(# %&$ 4! &"# !$ %&'3 (!#$ 7% %2(0%#$ $! $ -% $ % 1$)%$ "3)!!* &(" (3 "# !$)%$ " %$ 7% %$ 3* ""($(%&$ #&$)%($,!7% "# %" %&$ "3)!!* "'+ ,% (# %#&%# "# 7% %2(0%#$ (#3 % "%&$ %1'%$ #&

'#(0% "(-') 4%%#' 3!%&'3 (!# *' (#' *' &%, 1%# "' #' &&((!#' !')%3!**%2%')%' '#(0% "(-'#!7' 1 (# (#' #' 3 &%1-' #&' !#"% 0 ! -' (#3*'&(#2' ' 3)!!*' !$' '"(3' #&' ' 3)!!*' !$' (#%' "' 4!)' %" 4*(")%&' (#' 8GOO')%' ,!*(3-' !$')%' (#" (' (!#' (#' %3%#' -% ") 4%%#' !' %#* 2%')%' 7! /' #&' (#3 % "%')%%$$(3(%#3-' !$')%' 3!**%2%' 33! &+ (#2*-')%' *%0%* #&' !**%2%' !$')-"(3(#' #&' ' 2%!#"' %" 4*(")%&' (#' 8GKI' #&' 1 &%' ' !$')%' '#(0% "(-' (#' 8GLK' 7 " (#' .'#%' 8L8<' 2(0%#' !0%' !')%' %&(3 *' %, 1%#' !$' %" % #' %"% 0%' #(0% "(-' ' 3)!!*' !$' ! -'%" 4*(")%&' (#' 8GLN' (" #!7' ! 2 #(=%&' (#' 3!##%3 (!#' 7( )')%' 3!**%2%' ' 3)!!*' !$' '"(#%"" '%" 4*(")%&' (#' 8GLM' #&' "(#3% 8L<G' ! 2 #(=%&' " ' , ' !$')%' 3 &%1-' 7 " &("+ 3!# (#'%&' (#' .'#%' 8L8J')%' 2!0% #1%#' !$')%' (#" (' (!#' (" (#')%') #&" !$' ' ! &' !$' '" %%" %*%3 %&' 4-')%')(!')%' !)')(!')%' (#3(## (' #&')%' %# *')(!' !#+ $% %#3%" !$')%' %)!&(" ' ,("3!, *')' 3)')%' ""!3((!#'!$' *'1#(' #&' $(0%' '" %%"9 9 * 2% %*%3 %&' 4-')%' ! &' '&%# " % &1(%&' !')%' !**%2% 4-' 3% ($(3 % $!1' %, %"%# (0%')(2)' "3)!!*" ! ' 4-' %? 1(# (!#')%' %# #3% %6'(%1%# " % $($ %%#' '#(" "' #&'%' ",%3(*(= (!#' (#' %*%3 (0% 7! /' (" 2' &%&' 2 (#" ' 4-')%' &(" (4' (!#' !$' "'4+ 0%3 " (#' 2 !',"' #&')%' 3 %$'*' *(1((!#' !$')%' " '&%# $" 3!' "%" (#' % 3)' !' &($$% %#+ (%)% ' &%2 %%' ' 1(#(1' 1' !$' !#%' -% $" 7! /'(#' 3!**%2%' (#' !' %%/'(" 1 &%' ' !$' $!' ')% * #2' 2% %6'(%1%#' 5 #&' $!' ')% ' ' * 2%' %6'(%1%#' (#' 1)%1 (3" #&' "3(%#3%' (" , !0(&%&') #' $!')% ')% ! *' %# !**1%#' !$" ' '&%# " (#' 8L8J' 7 " 8JNL' $)%"% L8J' 7% % (#')% 3!**%2%' 88I' (#)% 3 &%1-';(#3*'&(#2')% 3)!!*' !$' '"(#%"" B' #&' JJN' (#')% !#"% 0 ! -')% $ 3'* -' (#+ 3*'&%" 7%# -9"(?' ,% "'!#" !$' , !$%""! (*' 2 &%' #&' $! -' (#" '3 ! " #&' ""(" # "')% %0' % 4% ' %*3)' ' '(" %"(&%#

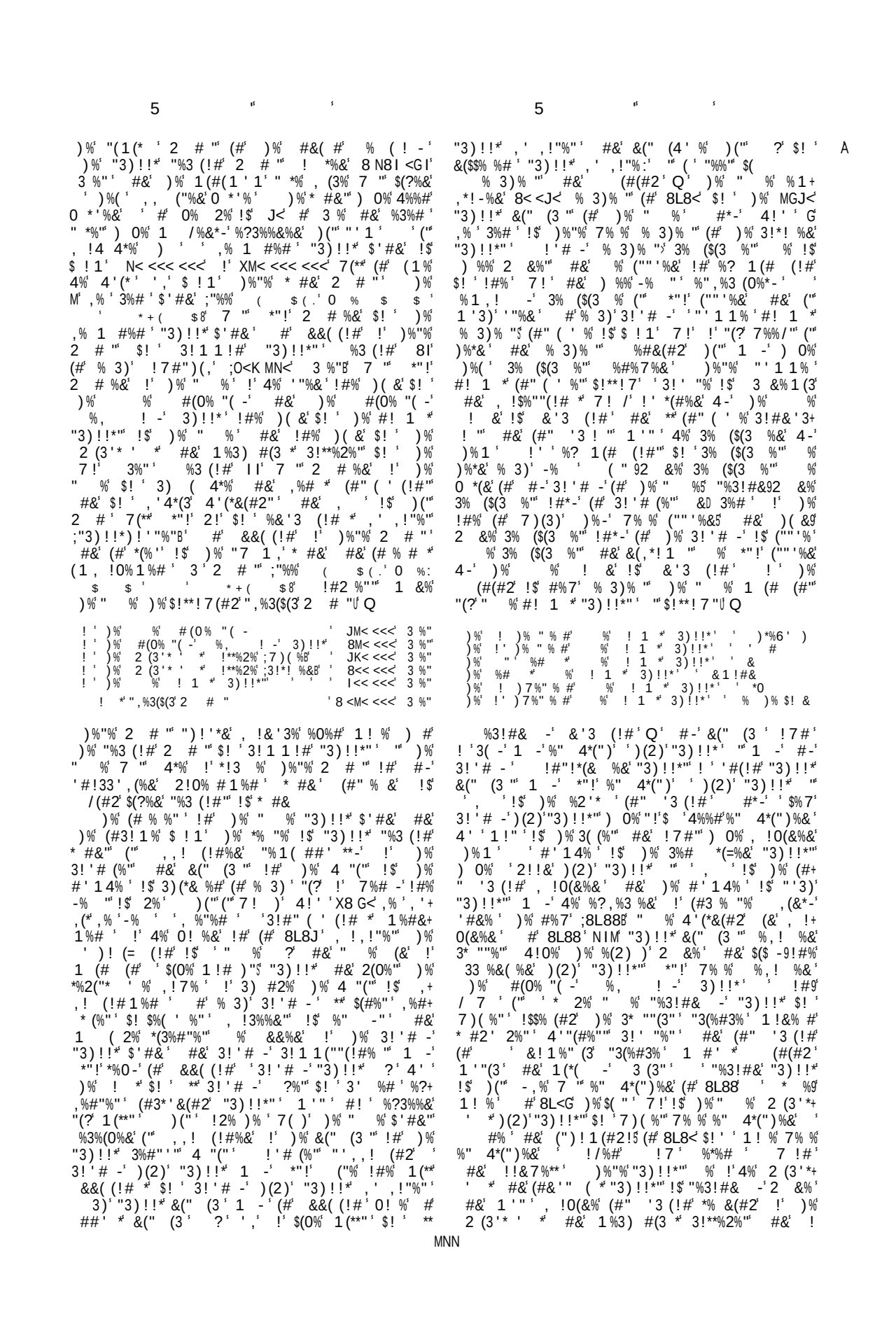
' Q' ' " % (#" (' (!#' ! 2 #(=%&' (#' 8GL8' " ' * #&' 2 #' 3!**%2%')%' 3!**%2%' (" ')%)% &' !$' " "-" %1' !$' " % 2 (3'* ' *' "3)!!*" ' ', !0(&%" 3!' "%" !$' (#" "'3 (!#' (#' 2 (3'* ' %' 1%3) #(3 *' "' %#2(#%% (#2' 1(*(+ -' "3(%#3%' &!1%" (3' "3(%#3%' (#(#2' !$' % 3)% " ' #&')% %* %&' 4 #3)%" %6'(%&' 4-' * 7')%' 3!**%2%',* #' %14 3%" %*%0%# 4'(*&+ (#2" #&' 8<<<' 3 %" !$' * #&' 7!' -% " !$')(2)' "3)!!*' 7! /' % %6'(%&' $!' %# #3% !')% $ %") 1 #' 3* "" ')% &%2 %%' !$' ' (" 3!#$% %&' (#')% &($% %#' &(0("(!#" !$')% 3!*+ *%2%')% %# !**1%#' !$" " '&%# " (#' 8L88 8L8J' (#3*'&(#2' **' %#&(#2' ",%3(*' #&' ")!' '%" ' 3 ' J8<<')% $ 3'* -' (#3*'&%" "%0%# -9!#% 1%14% "

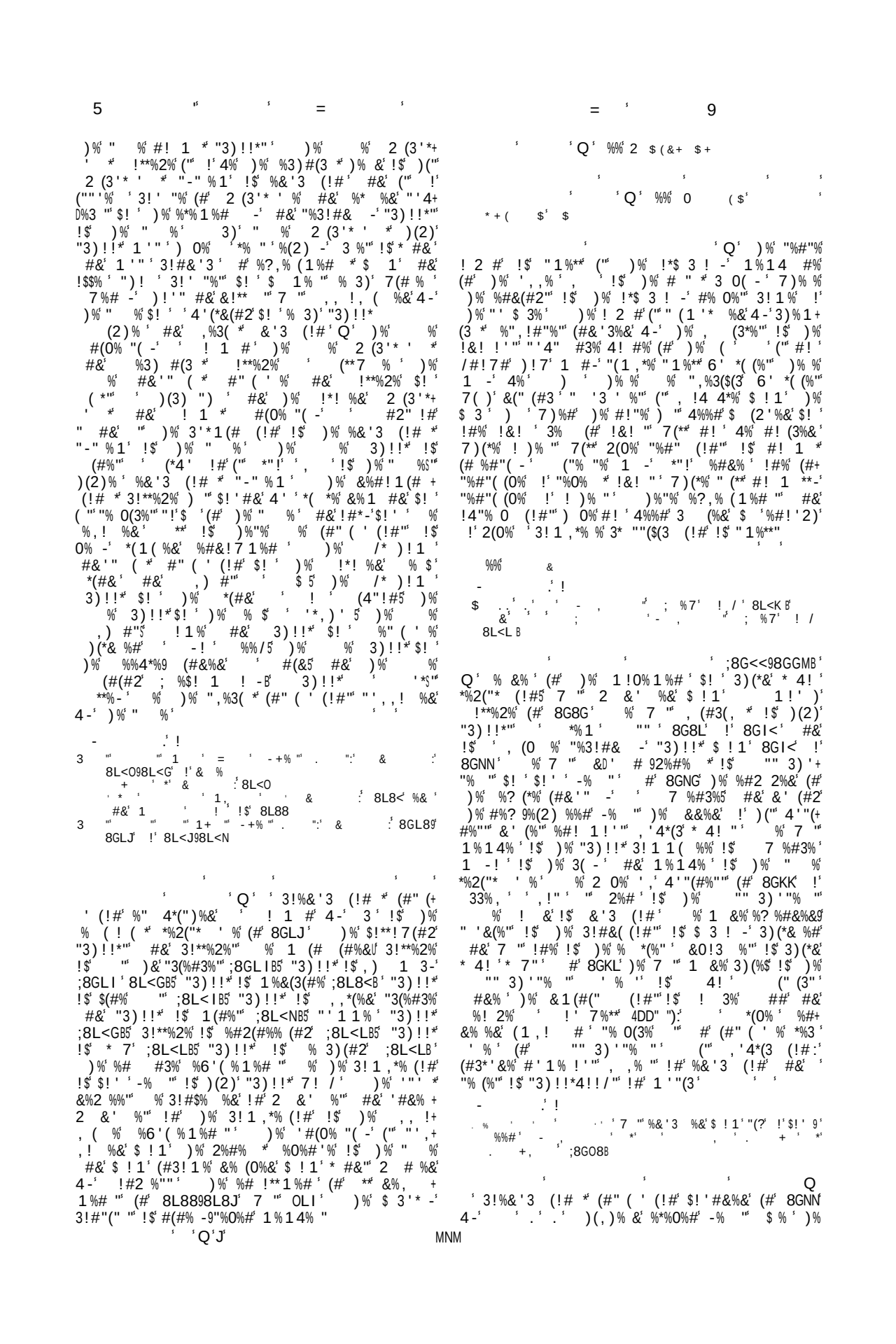
' Q' ' 3!%&'3 +

(!# *' (#" (' (!#' !,%#%&' 4-')% /*)!1' , (" ' !#0%# (!#' (#' 8L<8')% % % 1 (#+ (#%&' #' 3 &%1-' 3!**%2%' !$' *(4% *' "' 3!*+ *%2%' !$' $(#% "' #&' 4'"(#%"" ')% %# #3% %6'(%1%# "' !')% 3!**%2%' !$' *(4% *' "' % $($ %%#' '#(" "' !$' (2)' "3)!!*' 7! /')% $!*!7(#2' &%2 %%" % 3!#$% %&U' ' #&' ')% %#+ !**1%#' (#' 8L88 8L8J' 7 " IM<' (#' **' &%, + 1%# "')% $ 3'* -' 3!#"(" " !$' 7%# -9 7!' 1%14% "

' ' ' Q' (2(# -' ' , ' !$')% !'("(#' ' 3) "%' #&' "%' "(&% $!' #&(#" (#' 8GIN' #' 8GNG')% "*%#&% ' 7%" % #' %? %#"(!#' 7 " !4 (#%&' $!1' %?(3!' #&' $!' ' *!#2' (1% 7 " /#!7#' ")% '4*(3' #&' (,')(" " (,' #&')% 7%" % #') *$' !$')%, %"%#' % 7% %!,%#%&' !' "% *%1%#' , (*' JJ' 8GGL' #&' 7% % ! 2 #(=%&' " /* +)!1' % (!-' (#' 8GL<' 7)(*%)% % " % #') *$' 3!# (#'%&' " #' #&(#' %" % 0 (!#' ,' !' 8GLG' 7)%#' ' % (!(*' $! 1' !$' 2!0% #1%#' 7 " , !0(&%&' $!' (' *"!' #' 8L<K' !#2 %" " ')!(=%&')% 7!' % (!(%" !' '#(% #&' !' ,*-'$!' &1("(!#' " !#%' " % #&' (#' 8L<O')% 7!' 7% % &1(%&' !2%)% ' ")% $! -9' "(?)' " % /*)!1' (" *!3 %&' (#')% 7%" + % #' , ' !$')% !') %# *' &(0("(!#' ') " ' *' #&' % ' !$' KL N8N' "6' % 1(%" ' 7)(3)' (" 4!' ')%" 1% "(=% ")% "(?' %7' #2* #&' " %" #&' %7' .% "%-' 3!14(#%&' ! ' &+ 1(#(" (0%' ,' ,!"% ")% " % (" ' , %"%#' &(0(&%&' (# !' "%0%# -9"(?' 3!'# (%" ' #&')%"%" (#' ' #' % &(0(&%&' (# !' 3((%" ' !7#" ' #&' "3)!!*' &(" (3 " ' #' 8L8<' /*)!1') &' ! *' ,!,'* (!#' !$' 8 KMO 8MM' #&' ' &%#"(-' !$' ,!,'* (!#' !$' JI L',% "!#" ,% ' "6' % 1(%A &'3 (!#' (" !-' Q' #')% !,%#(#2' !$' /*)!1' % (!-' !' "% *%1%#')% (# '")' !$' "% *% " 7 " 0% -' ,(&' #')% $(" ' & -' J< <<<' ,%!,'*% 3 !'"%&')% 4! &% ' #&')% $(" ' #(2)' ') (% 7)(3)' (#')% 1! #(#2') &' 4%%#' 0 3 #' ,* (#') &' ,!,'* (!#' !$' 8<<<' ,%!,'*% %$! %)% %#&' !$')% -% K<<<' ,%!,'*% 7% % (#')% % (!-' #&' (#')% #%?' %#' -% ")% ,!,'* (!#' (#3 % "%&' !0% #1%#' #&(#' "3)!!*") &' %?(" %&' (#' , " !$')% % (!-' $!' "!1% (1%')% $(" ' 7)(% "3)!!*" 7% % !,%#%&' (#') (% ' %#!' (#2$(") % ' #&' "!1% !)% ' !7#" (#' 8GGL')% $(" ')(2)' "3)!!*' 7 " !,%#%&' (#' (#2$(") % ' (#')% " 1% -% ' #')% ! 2 #(3

5





$!'#&%&4% *(# !1)$("'(') "4%%#'#&%#!1(# (!# *')$!#2 %2 (!# *(" ", (**-' &!, %&)$ 3!**%2%' #&'(' ("' #!7'/#!7#' ")$!#2 %2 (!# ' !**%2%$!((3)(+2 #''*')!'2)' 7( )!' #-' !2 #(3' %* (!#'!')$ &%#!1(# (!#')0%') "4%%#'0(**-'3!##%3 %&' 7( )$ %&'3 (!# ' (# % %" "' !$' (3)(2 #' "' , !$%""! "') 0%' "% 0%&' $!'1 #-' -% "' (#')$!$$(3%' !$')$ % ',% +(# %#&%#' !$' '4*(3' #" '3 (!#' #&' !#')$ % ! &' !$' &'3 (!#' #&') !'2)')%(' ,'4*(3' *%3 ' %"' #&' ,'4*(") %&' 4'**% (#"') 0%') &' 1 /%&' %$$%3' !#')$ %&'3 (!# ' &%0%*+!,1%#' !$')$ " %')$, %"%#' 0 *'%' !$')$ 2 !'#&"')$ $!' %%#' 4'(*&(#2"' %6'(,+1%#' #&' %#&!71%#' 1!'# "' !' 4!'' XK<< <<<')$ *(4 -' 1'"%'1' !$' # ' *')(" ! -' #&' %6'(,1%#' $!' % 3)(#2' "3(%#3%"' % %?3%, (!# **-' 2!!&')$ '"' ' '#&% +2 &' % &%, 1%# "' (#3*'&(#2' 1'"(3' %1 (# (#%&')$ %# #3% %6'(%1%# "' $!' *' "'&%# "' 7)!'(# %#&' !', !3%%&' !')$ &%2 %%'; B' % $($ %%#' '#("' !$')(2)' "3)!!' 7! /')$ %# !**1%#'(#' 8L8<98L88' 7 "' JIG' '&%# "')$ $ 3'* -'3!#"(" "' !$' 7%# -9$!' '1%14% "

;8OL898GMLB'Q' !**%2%', !$%""!' #&' ')!' !$' "3(%#3% %? +4!!/"5' 7 "' 2 &' %&' $!1' *%' !**%2%' (#'8G8I' %' 7 "' ' !' ' *%' #&'$!' %#' -% "', !$%""!'(#')$ #(0% "(-'!$' !)' !'(# ' !1' 8GJM' !' 8GML')$)%*&' ', !$%""!")(,' *%' #' 8GN<')% 7 "' 1 &%' 1%14% '!$')$! &' !$' !1 1("(!#% "' !$' !1 1 !#' 3)!!*"' (#' !##%3 (3' (' %&'3 (!# *7 ((#2"'(#3*'&%1 *' +, ',+ :' ' '* ' 1, ';(#' 7)(3)')%!' *(#%&' "3)%1%$!' ' 3!**%2%$!')% (#+(#2'!$' % 3)% "B' #&'. *' '- * ' ' ("' %? 4!!/"' (#3*'&%' $ + ' - ';8GI8B' 1, ' - ';8GIJB' ';*GILB' #&' + *' $ + ' - ' ';8GNJB' !$%""!' *1" %&' 7 "' 3 (0%*-'(&%# ($(%&' 7( )')% 1% (3 #' #" ('%!$' #" '3(!#' #&')% 1% (3 #' ""!3((!#$!')$ &0 #3%1%#'!$' &'3 (!#' DD" ")"

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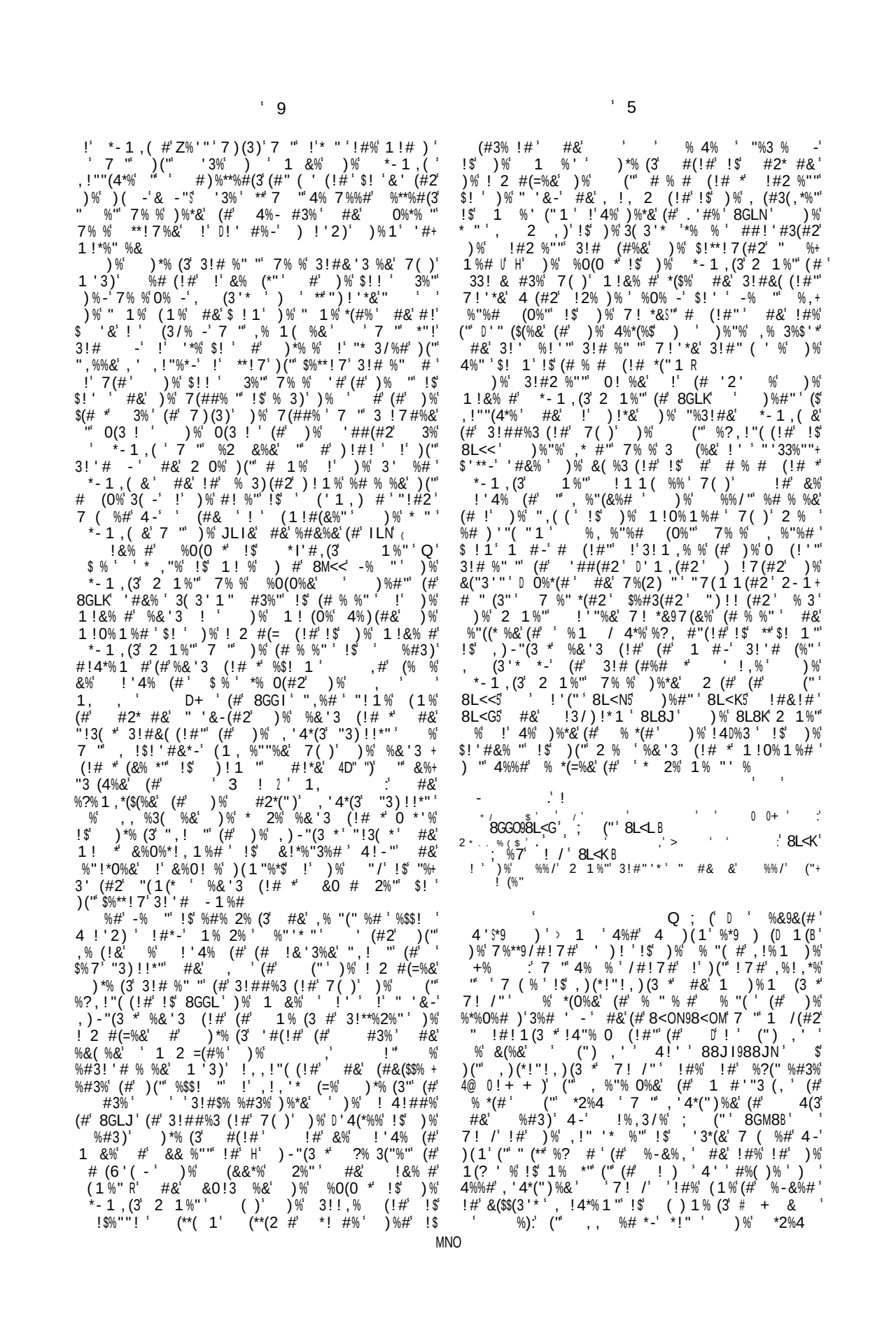
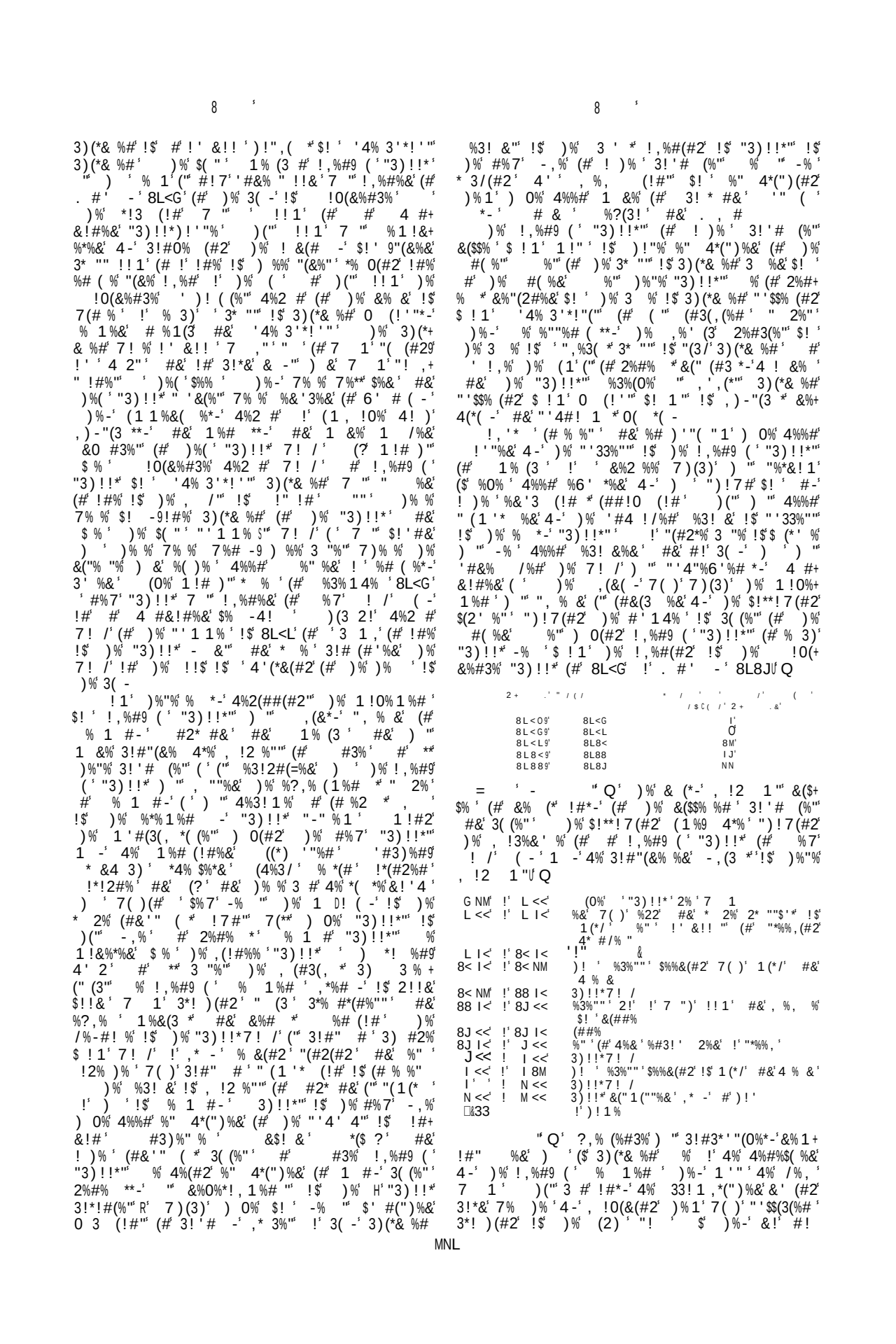




OPEN-AIR SCHOOLS

possess good wool underwear and warm, well-fitting outer garments, these must be supplied directly by the school or indirectly by some charitable agency. It is absolutely essential in cold climates that each child be provided with a heavy overcoat, sitting-out bag, two blankets, a wool cap, and warm gloves. In several cities the children are provided with Eskimo suits, which are made of heavy blanketing and put on over the regular house clothes. These suits have proved most satisfactory for the purpose and are unusually attractive in appearance. Extra shoes and stockings must be available to be substituted in case of need for those worn by children who come to school with wet feet. The most satisfactory outer foot covering for this purpose is the heavy wool felt boot reaching nearly to the knee. Wooden foot boxes, measuring about two feet long by a foot and a half wide and a foot high, and lined with quilting, are useful for keeping the children's feet warm when the temperature is low. The sitting-out bags are made of heavy blanketing covered with canvas and may be purchased from dealers in sanatorium equipment. They are cut and stitched so as to conform to the shape of the chair and may be attached to it by tape at different points to prevent the child in the bag from slipping off.

Food. — Only less important than warm clothing in securing successful results is wholesome and adequate food. In general practice does not differ widely from that developed in the original Charlottenburg school, where the daily routine is as follows: The children arrive at about a quarter before eight and receive a bowl of soup and a slice of bread and butter. Classes commence at eight with an interval of five minutes after each half hour's instruction. At ten o'clock the children receive one or two glasses of milk and another slice of bread and butter. Dinner is served at half past twelve and consists of about three ounces of meat, vegetables, and soup. After dinner the children rest or sleep for two hours. At four o'clock milk, rye bread, and jam are given. The last meal consists of soup and bread and butter and is given at a quarter before seven, after which the children return home. The expenditure for the feeding amounts to about twelve cents per day per child. Poor children are excused from paying, and the others pay in full or in part, according to the circumstances of their parents. American practice differs little from that described, except that the school day is shorter and hence the meals given are frequently reduced in number.

In addition to the meals taken at the school, the children have milk and bread, or cereal and milk, or sometimes an egg before leaving home in the morning, and again a light meal on their return home at night. This brings the total fuel value of the food eaten during the day up to about 3000 calories, which is probably high for a normal child, but not for these tuberculous children. The cost of feeding in America varies from about sixteen cents to about twenty-five cents per child per day.

Administration. — In most American cities the open-air schools are administered by a partnership of responsibility. In the majority of cases the Board of Education meets the cost for teachers' salaries, school premises, and schoolroom equipment, while the expense for food and clothing is defrayed by hopitals, charitable organizations, and societies for the prevention and cure of tuberculosis. At the close of the school year 1910–1911 data as to the administration of forty-seven open-air schools in different American cities were as follows: —

Board of education and tuberculosis association	20
Board of education and private association	11
Board of education only	7
Board of education and other city department	6
Tuberculosis association only	2
Board of education and private fund	1
	47

The premises occupied by the schools were as varied as the forms of administration. Among thirty-nine schools the following variations were found: —

Remodeled rooms	14
Special buildings	6
Roofs	6
Regular classrooms with open windows	5
Boats	5
Tents	2
Barn	1
	39

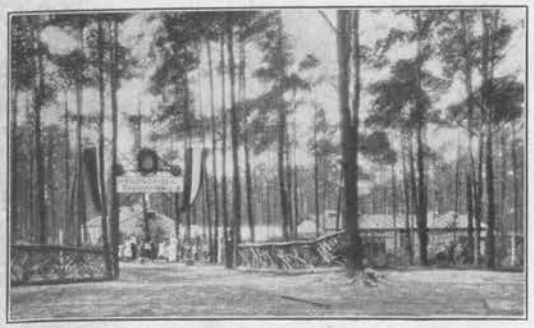
Expense. — The expense of conducting open-air schools depends in very large degree on local conditions. The only certainty is that the cost will always be greater than that of the ordinary class. The first reason for the added cost is that there are only about half as many children per teacher, the desirable limit being about twenty. In the second place the expense for food amounts to from sixteen to twenty-five cents per child per day. In the third place there is the individual equipment of each child, which is necessarily expensive. Its items with their cost are about as follows: —

Blanket	$5.00
Eskimo suit	3.50
Sitting-out bag	3.00
Cot	1.75
Felt boots	.50
Mittens	.40
Thermometer	.25
Toothbrush	.20
	$14.60

This individual equipment is in the nature of permanent investment, and can be used with slight replacement for several years. Taking all of these different added expenses into account, it is fair to say that the education of a child in an open-air school costs nearly three times as much as does the education of the same child in the ordinary school.

An Open-air School on the Roof, Boston.

Special Building for an Open-air School, England.



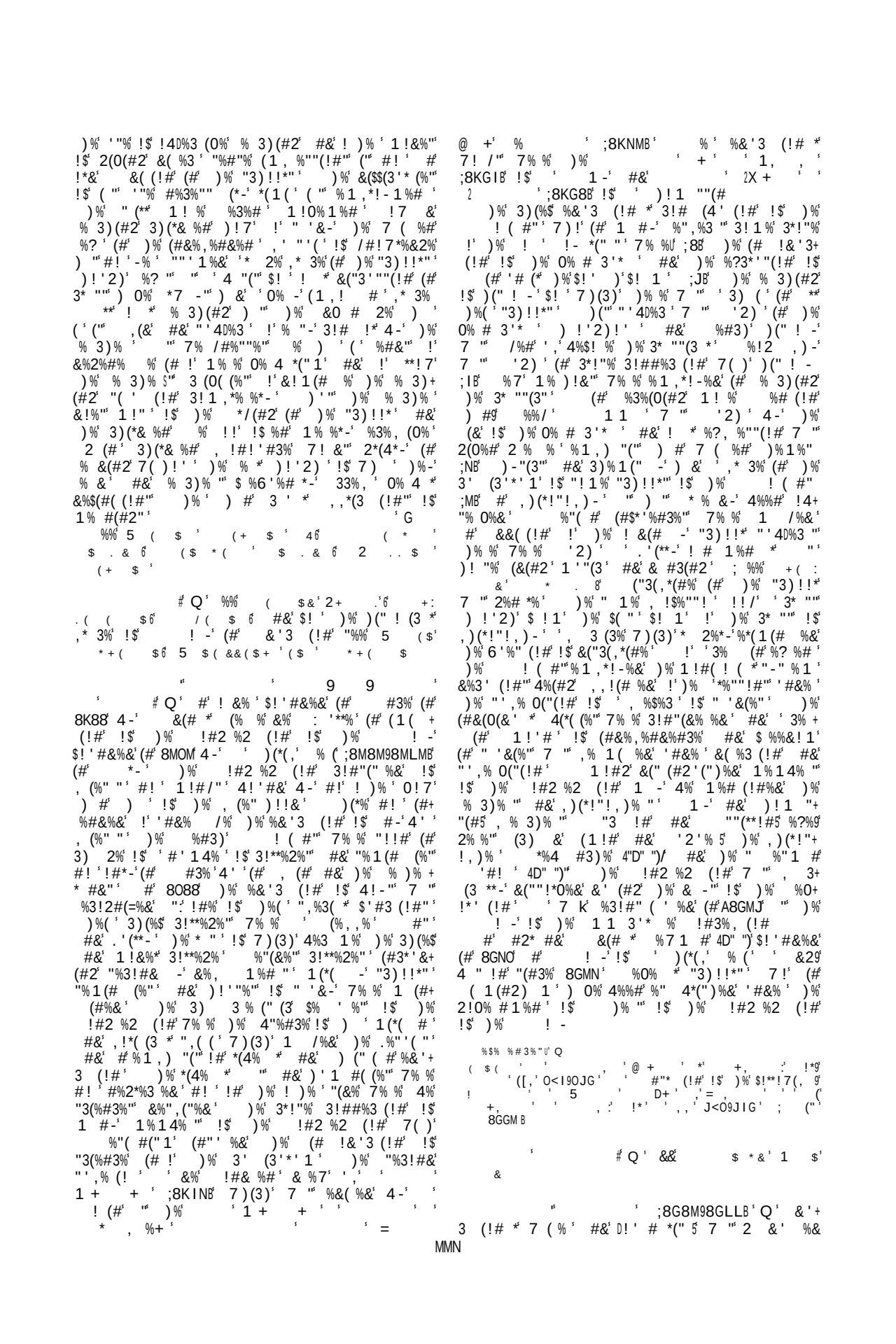
Forest School at Charlottenburg, Germany.

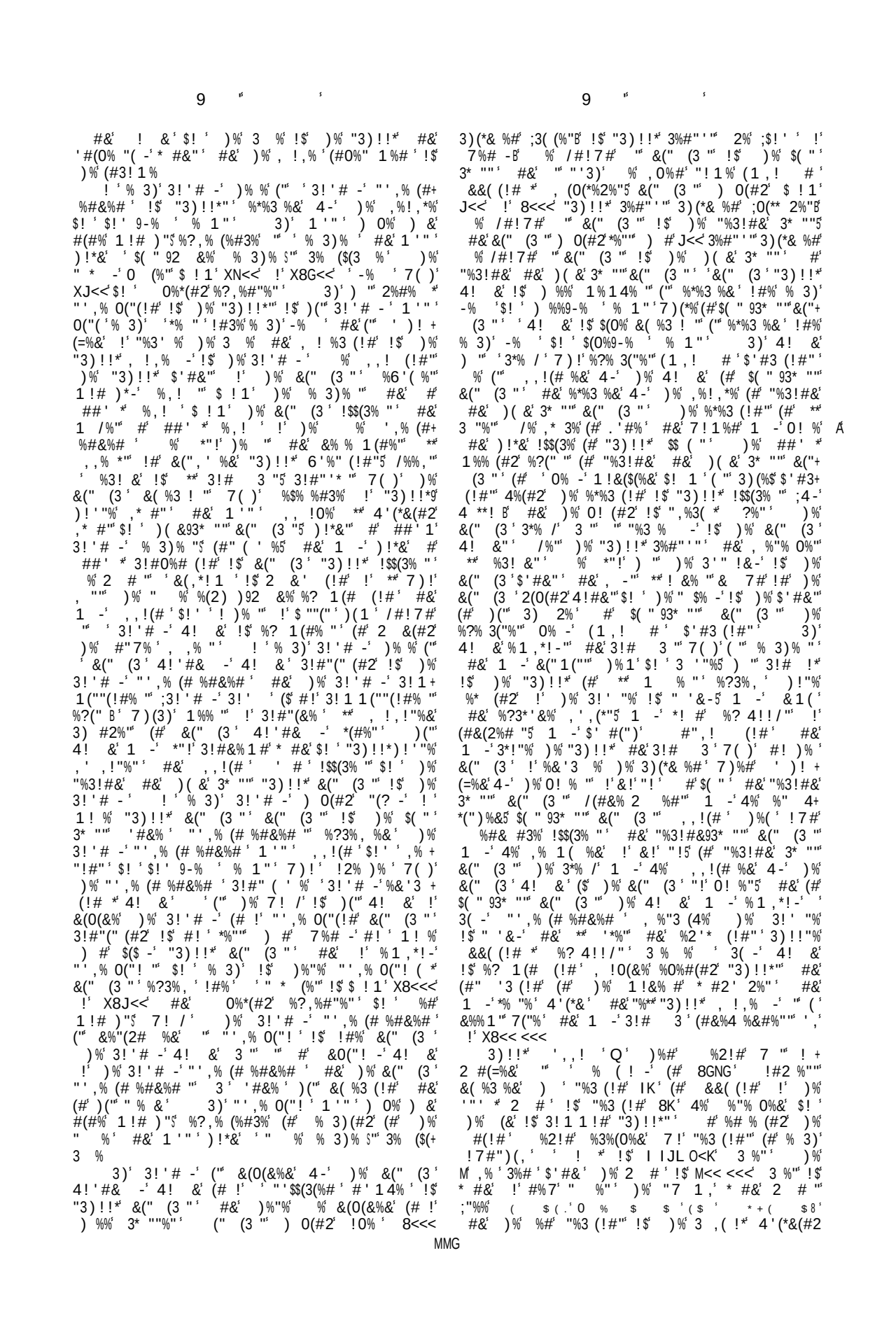
New York Open-air School on a Ferry Boat.
The Rest Hour.

Chicago Open-air School, showing Special Clothing.

An Open Window Schoolroom, Providence, R. I.

OPEN-AIR SCHOOLS.





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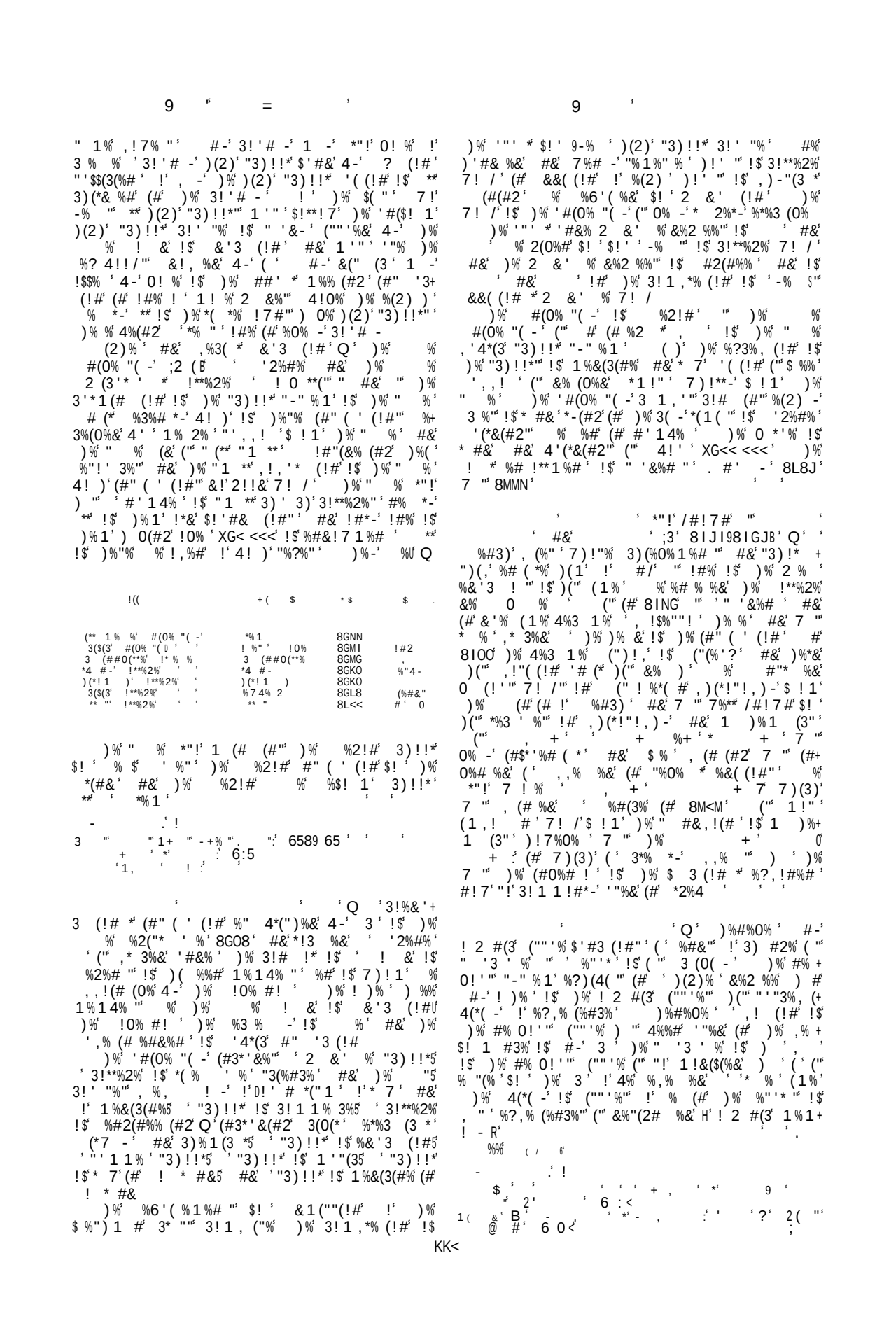

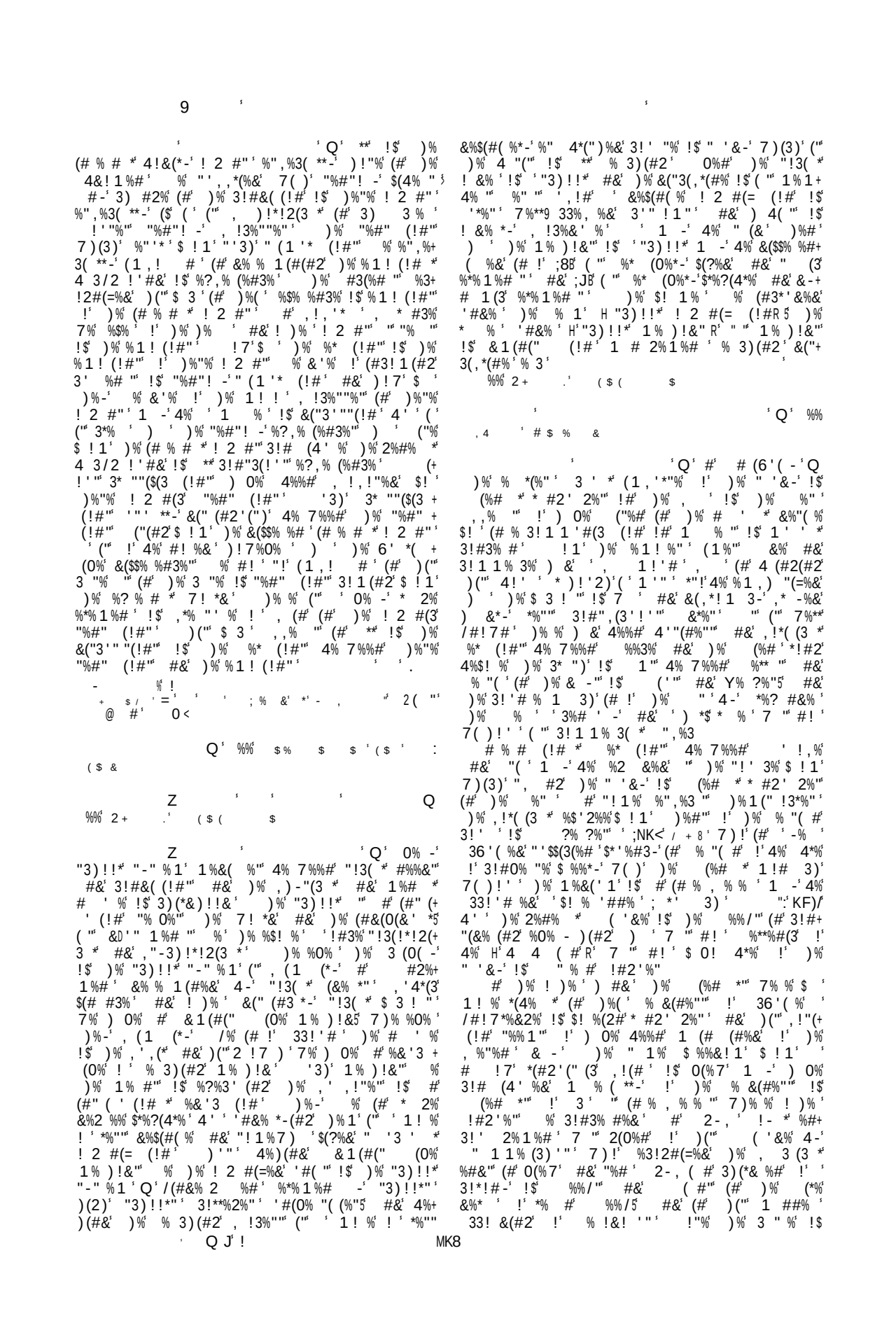

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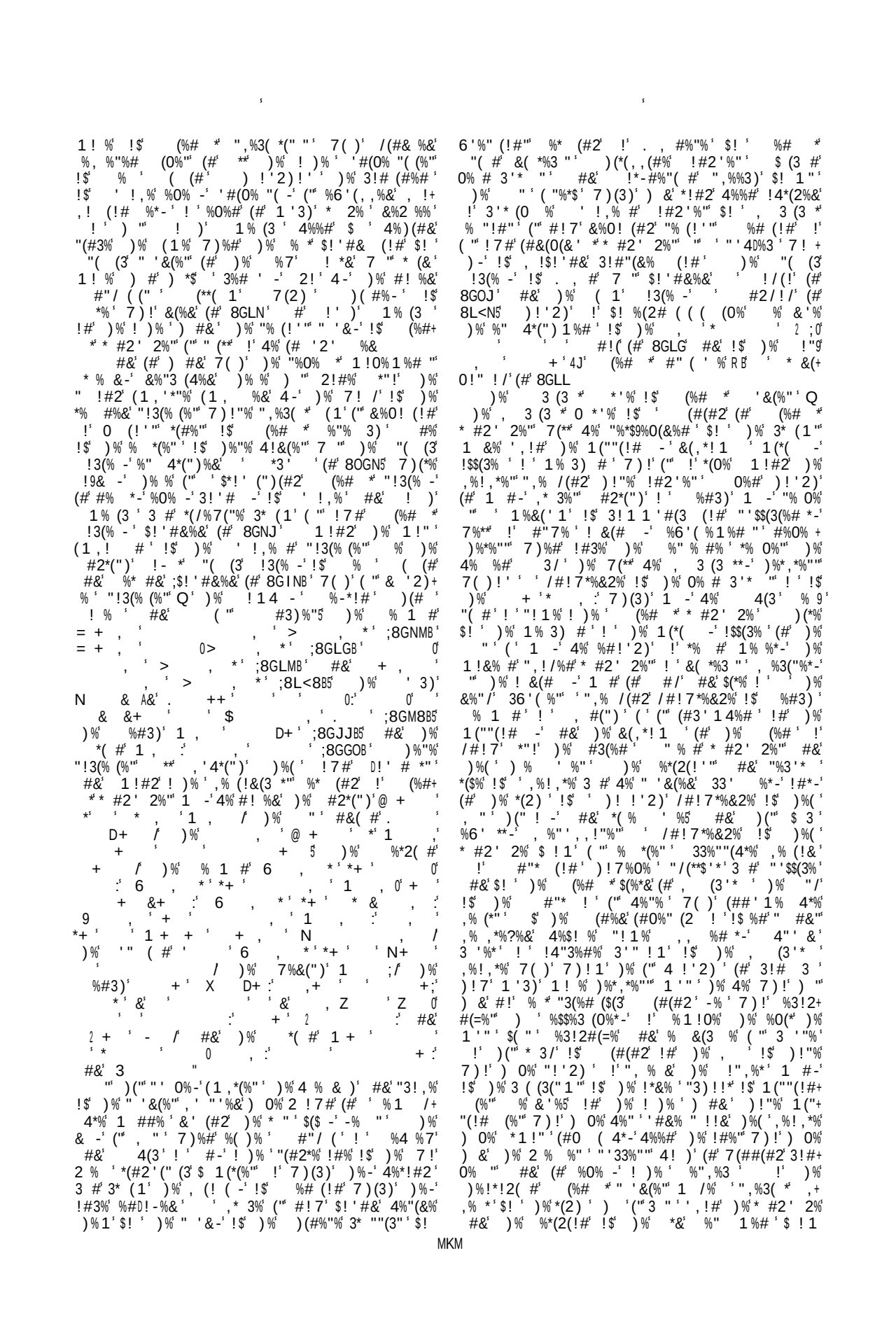

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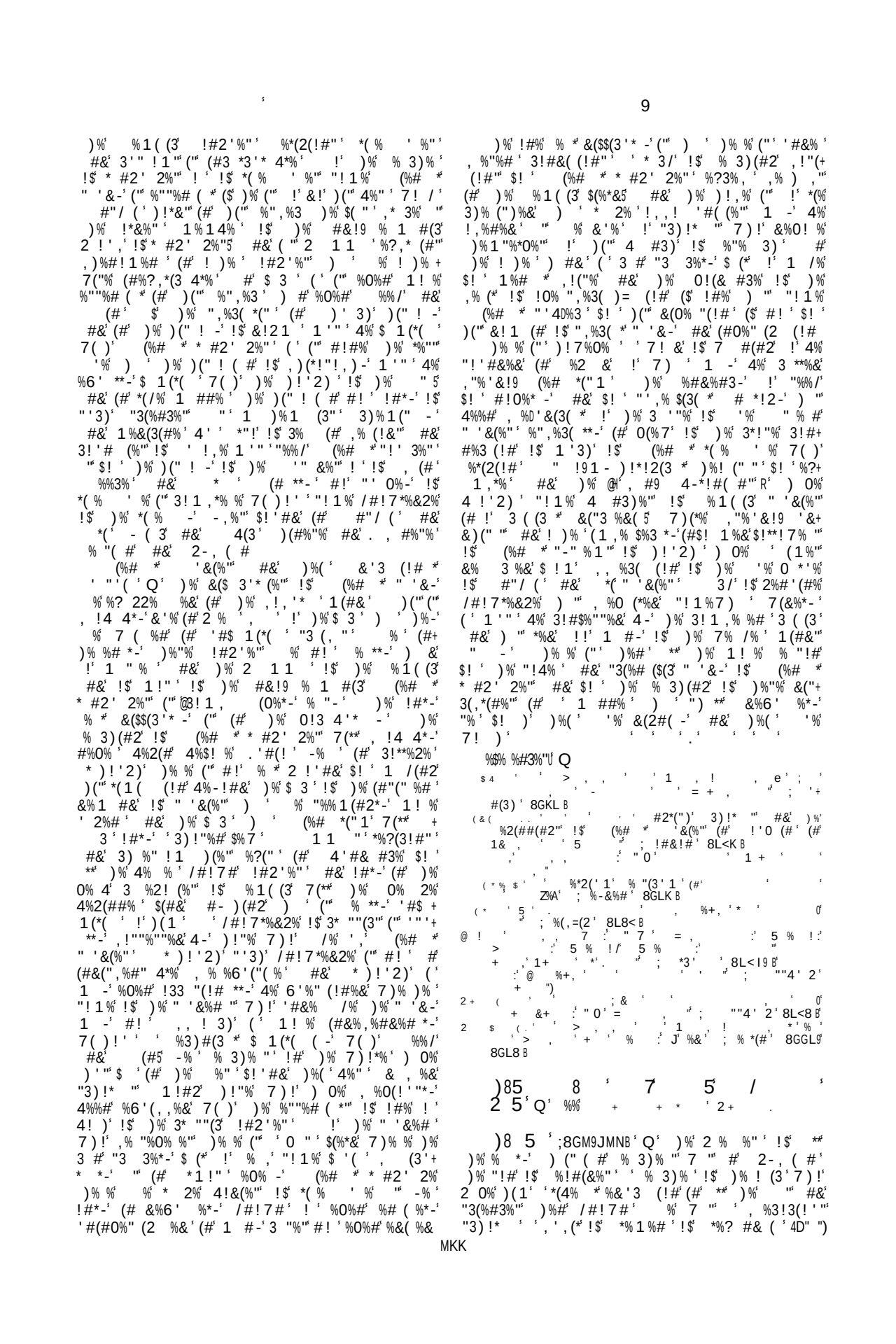

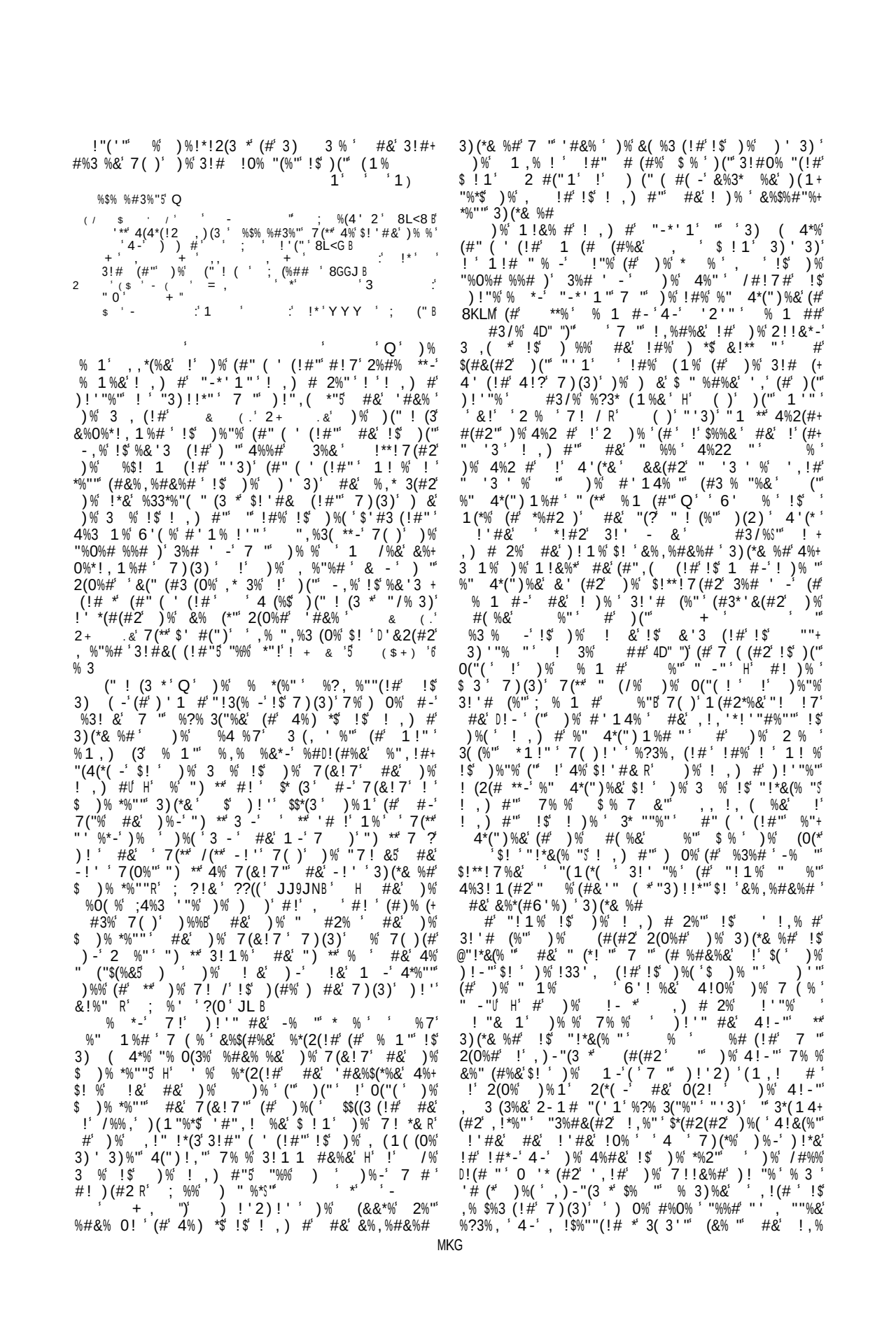

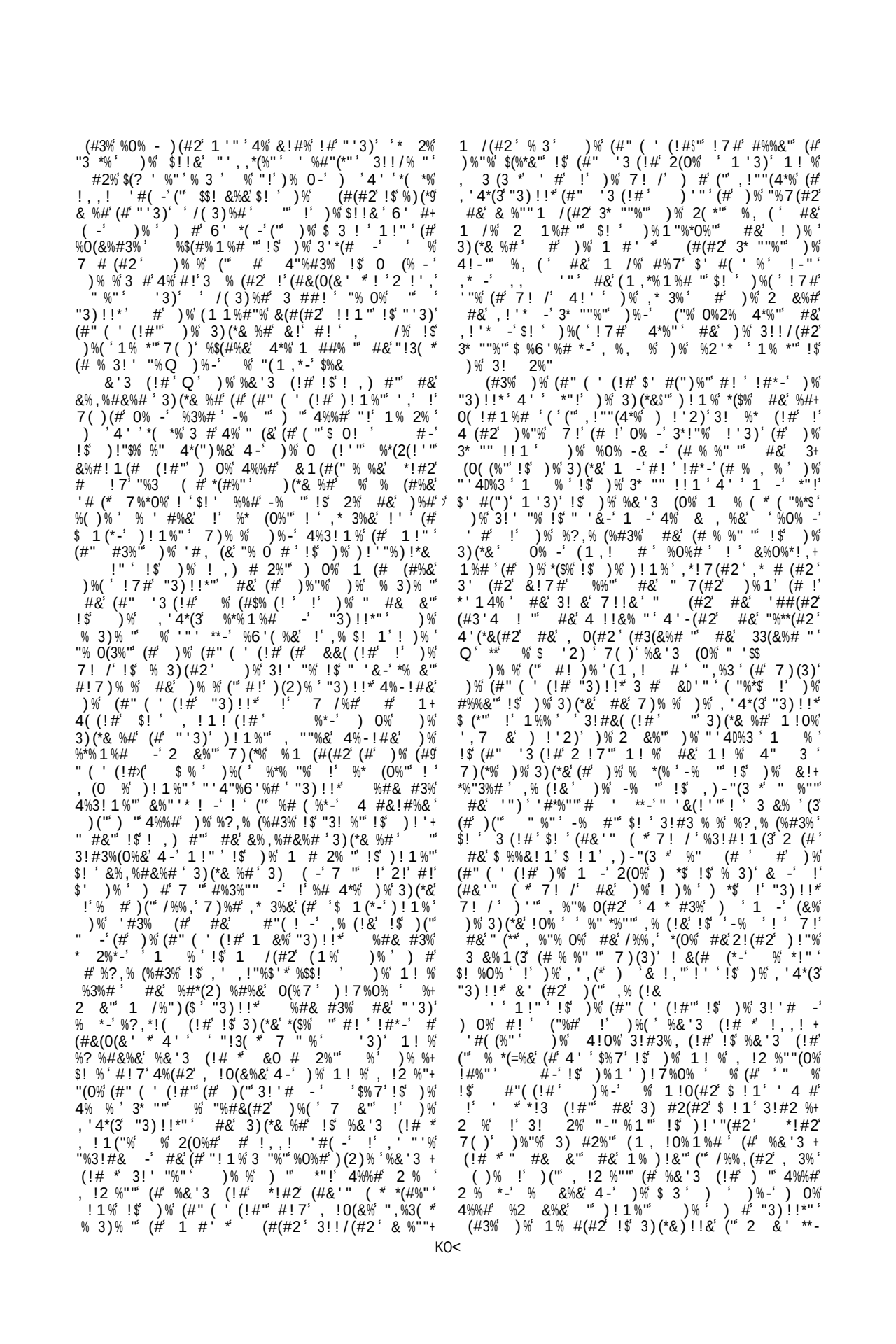

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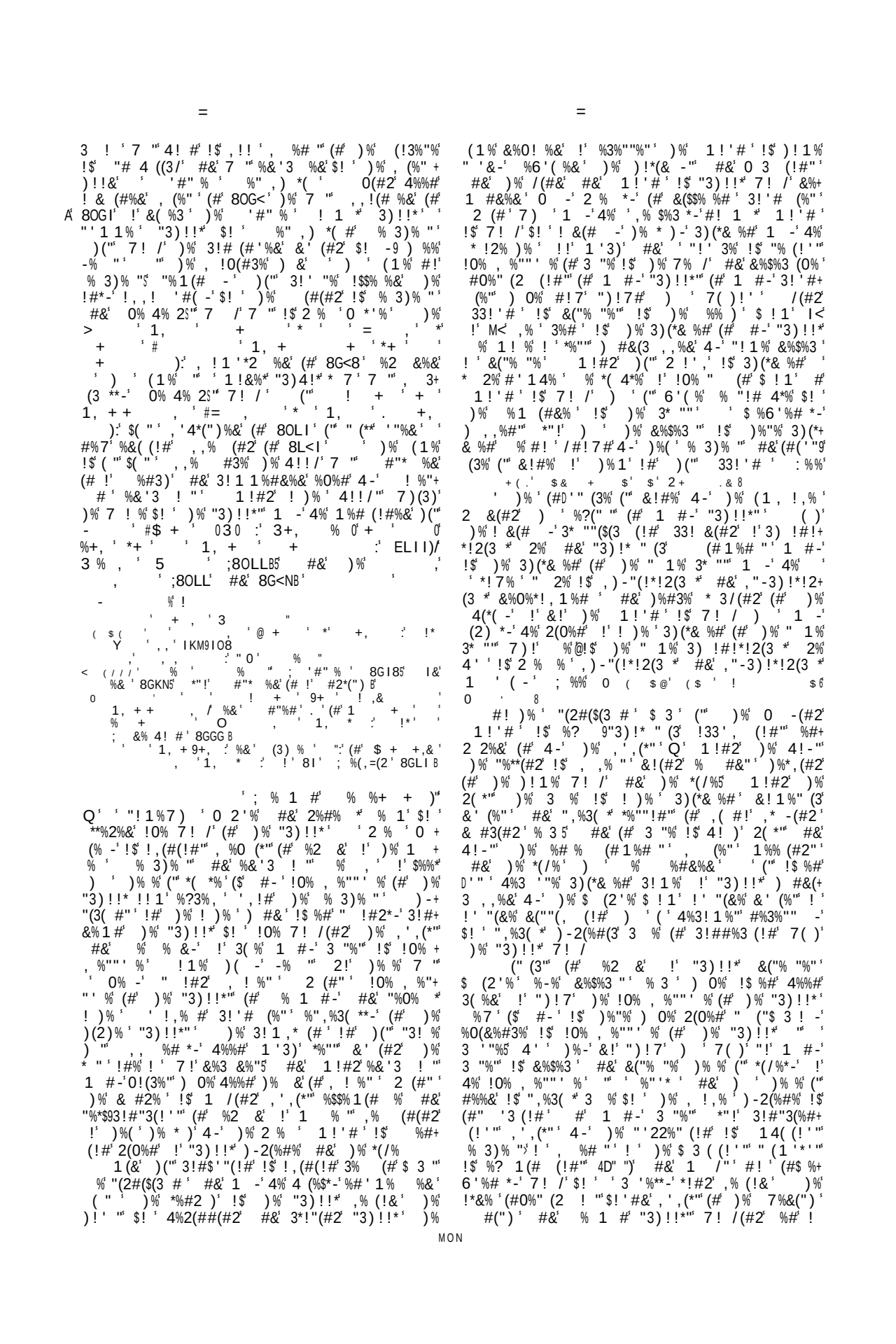

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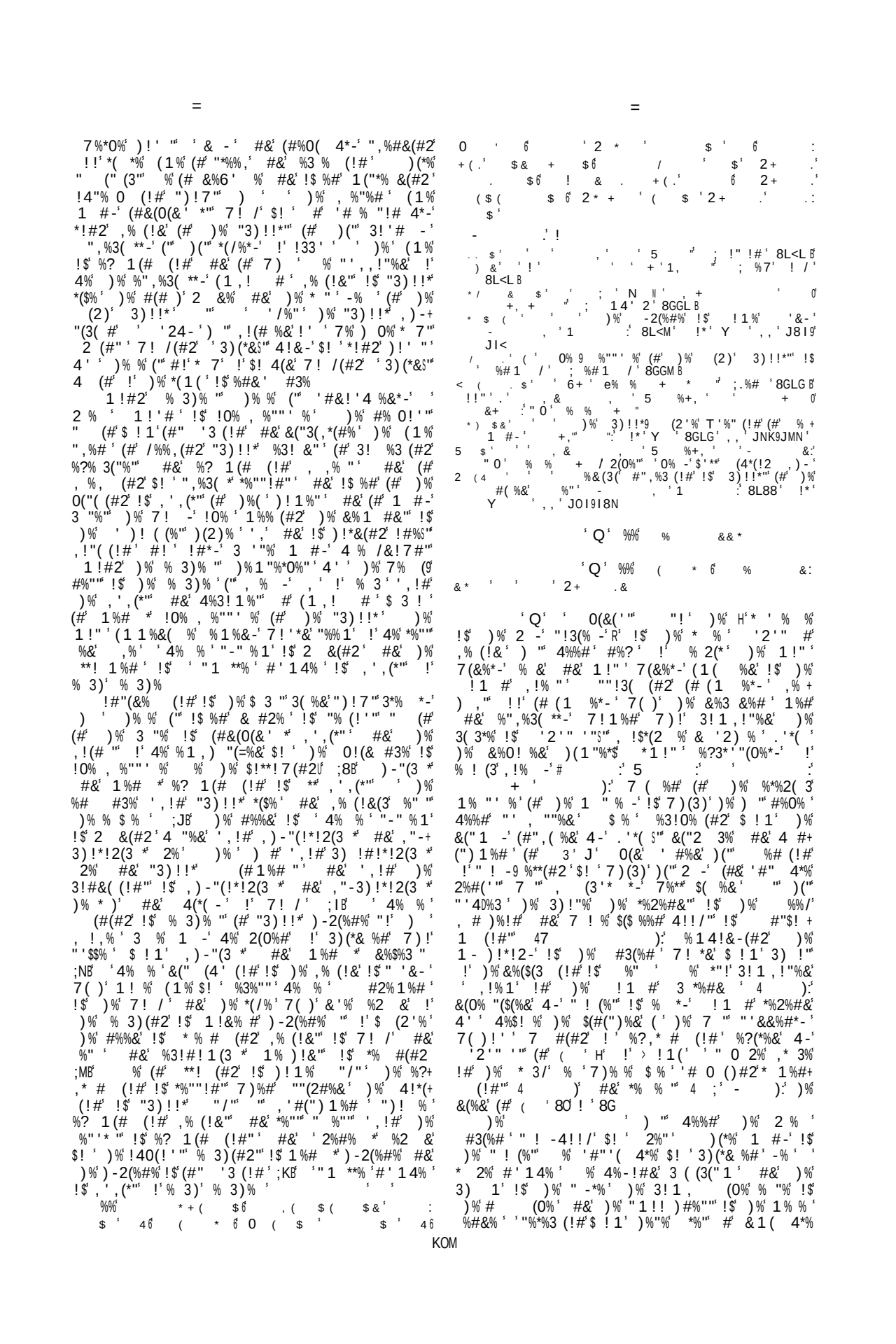

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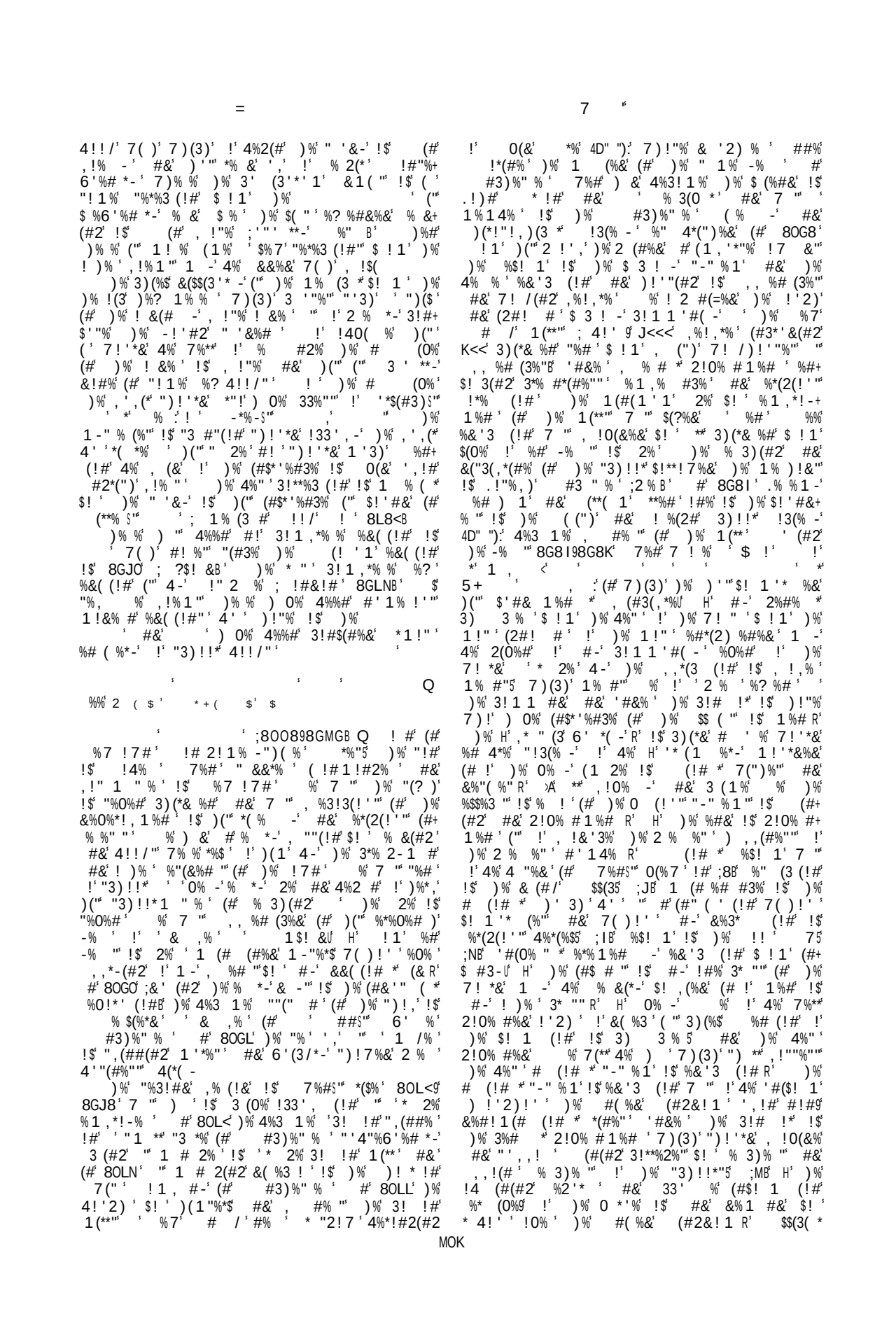

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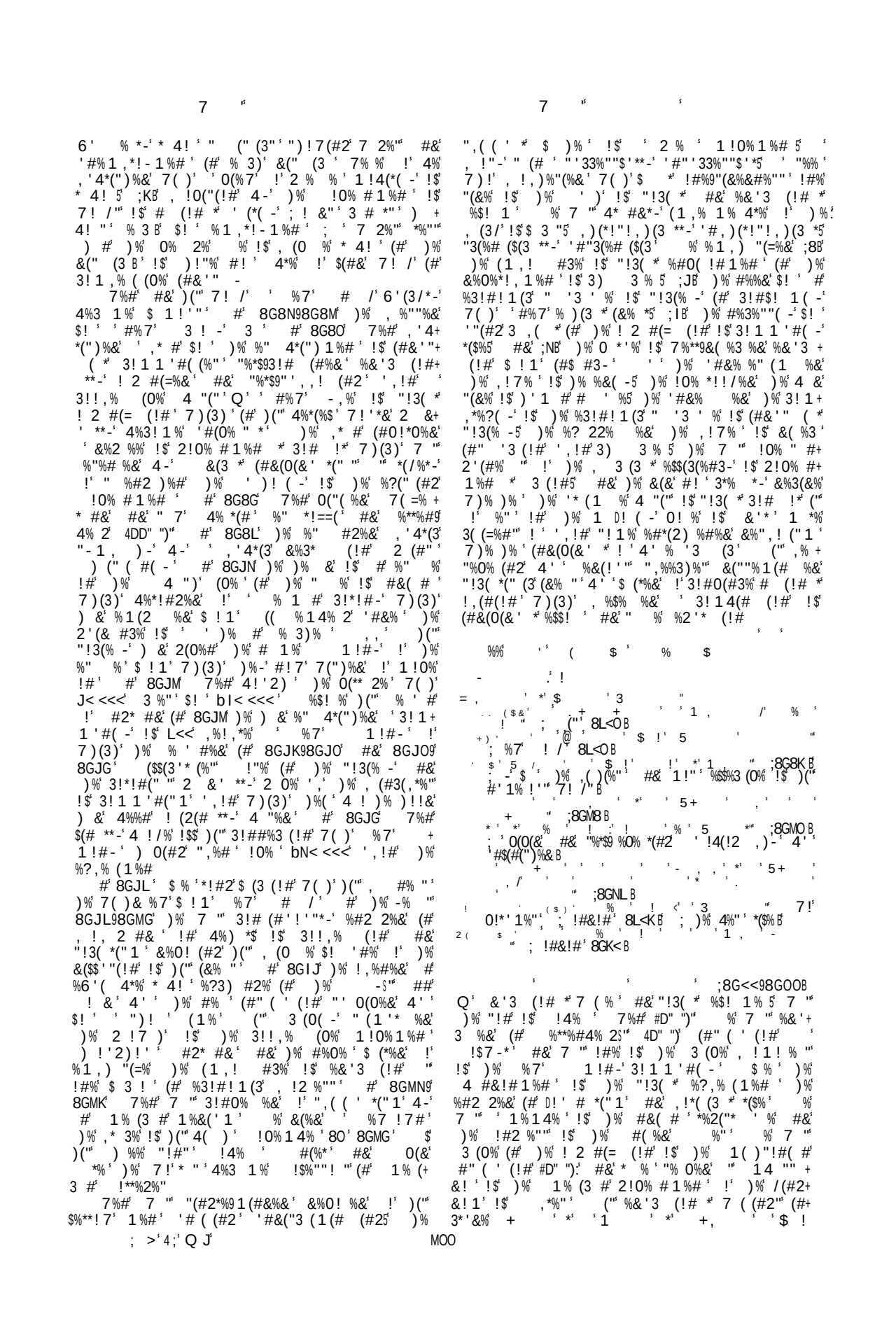
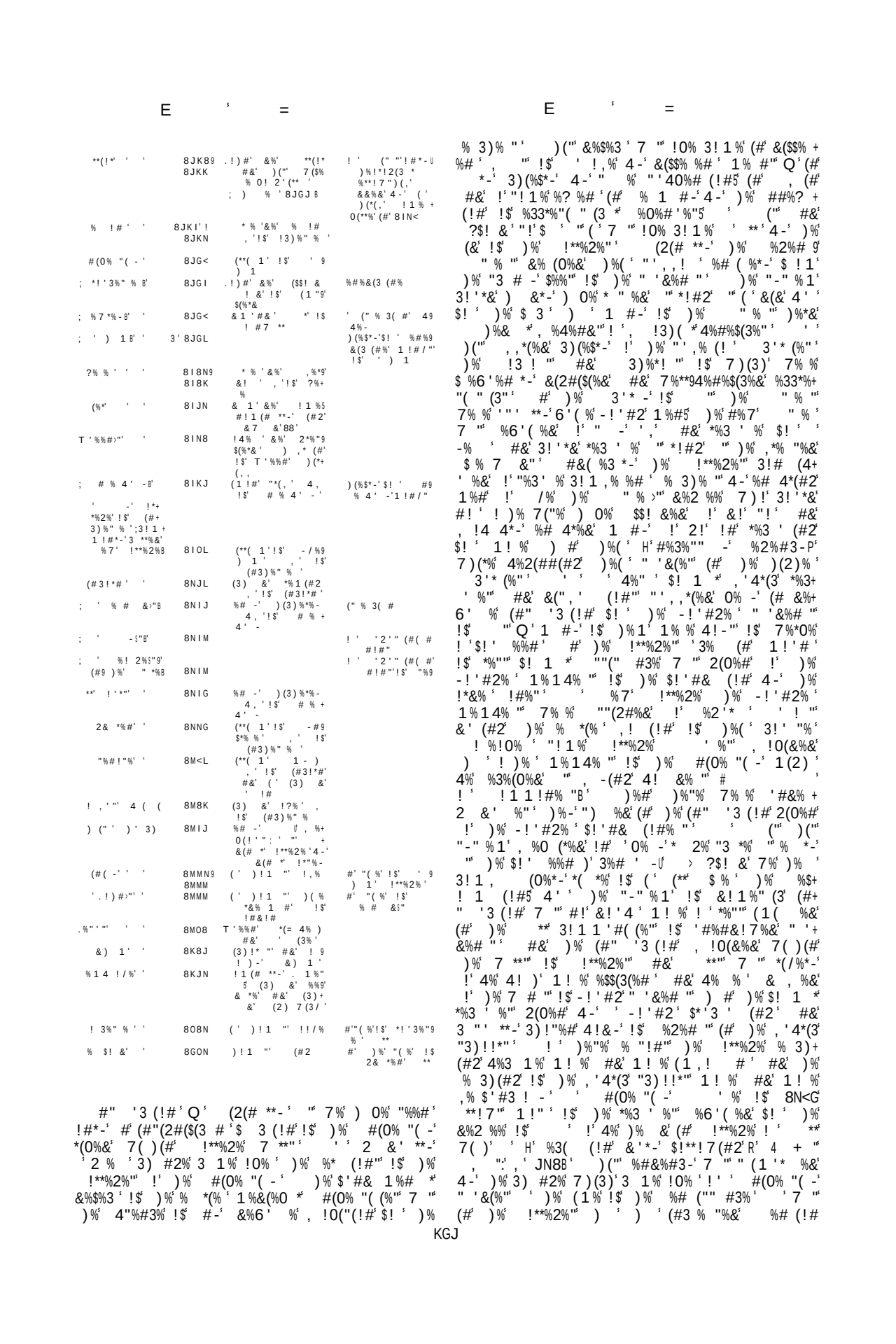
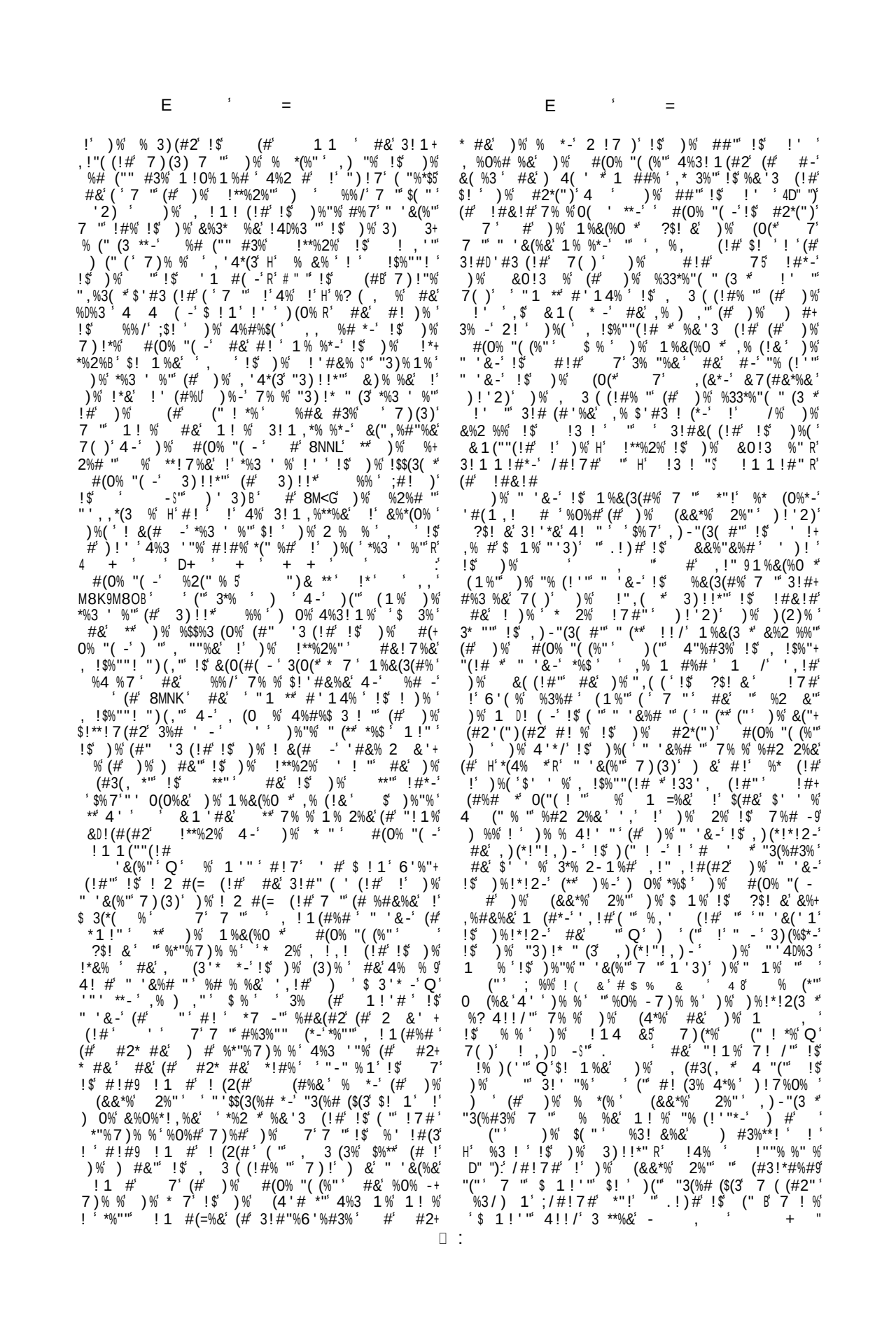
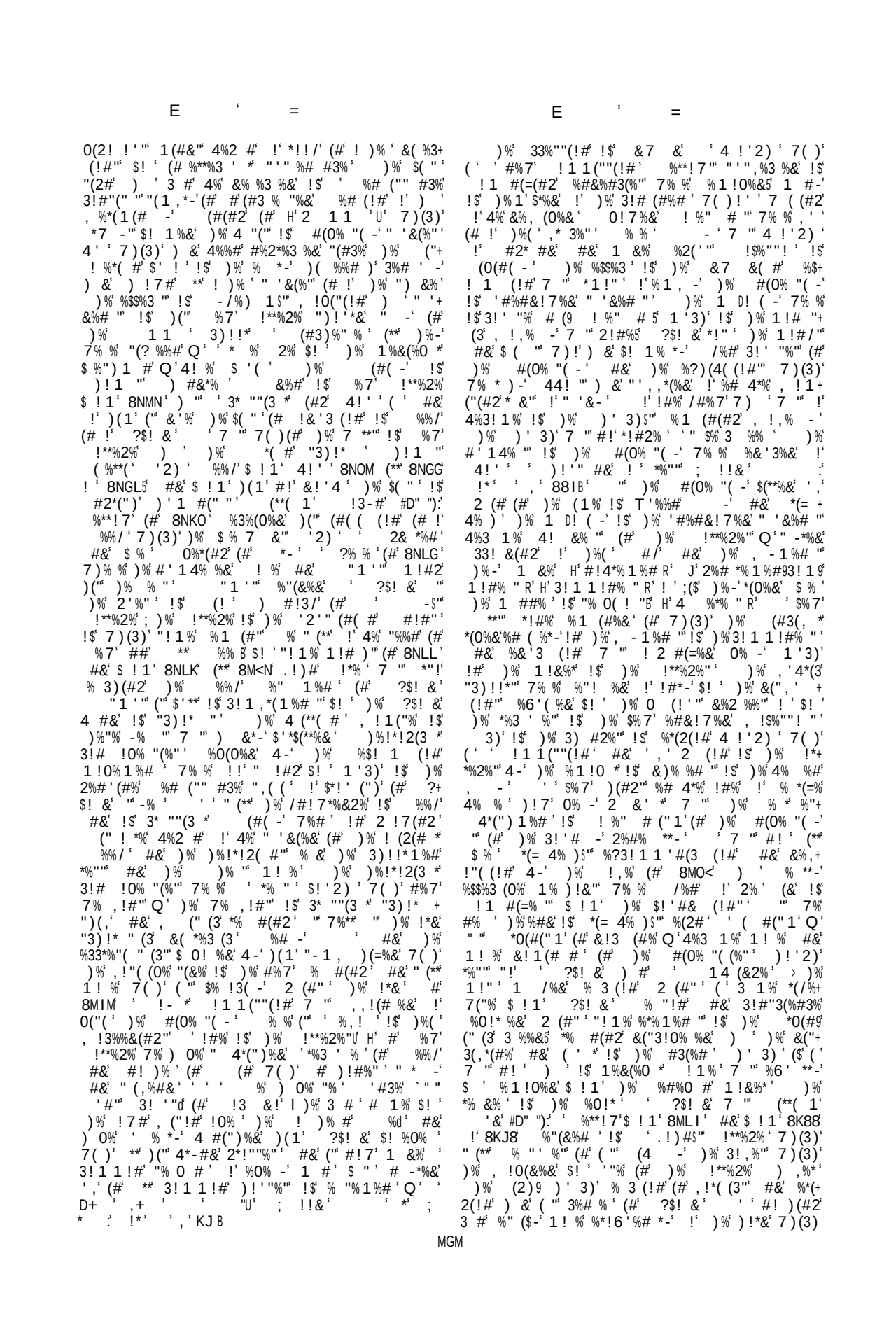




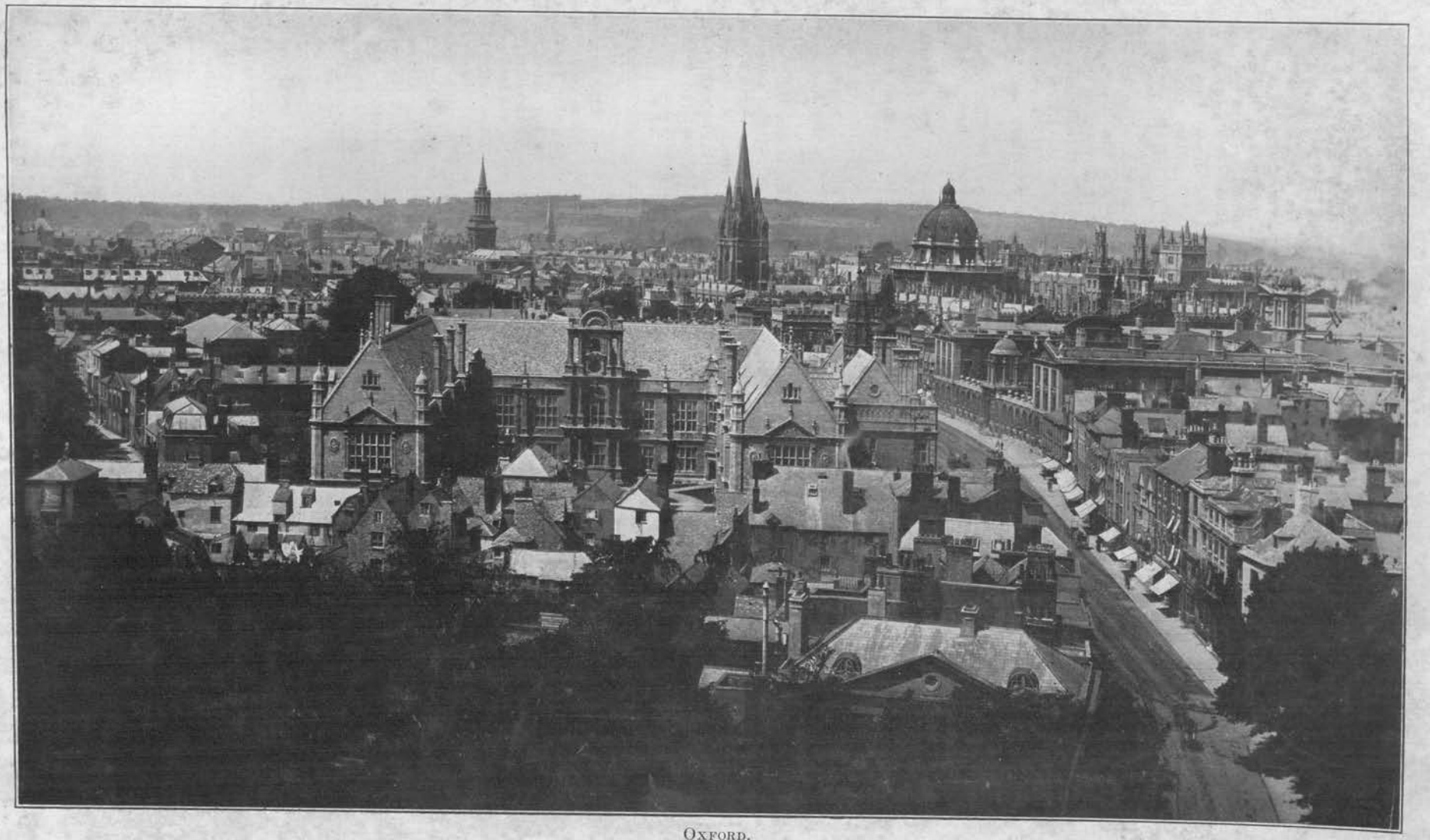




Calvinism in doctrine had obtained over Oxford, even among those who were strong supporters of Episcopacy and the Prayer-book as against the Presbyterian worship and discipline than the fact that even Laud himself in the height of his power (1635), while remonstrating with the Bishop of Winchester as to the condition of New College, did not venture to deny that "Calvin's *Institutions* may profitably be read" by students in the University, though he ventured to suggest that it was premature to make it the chief subject of study and examination for young scholars in their first two years after coming up.

Laudian Statutes. — In 1630 Archbishop Laud was elected Chancellor of the University. Towards the end of the fifteenth century it became common for the University to elect as a Chancellor an Archbishop or Bishop — later on sometimes a lay noble — who was of course usually, if not always, an absentee, leaving the practical duties of the office to be discharged by a Vice Chancellor, usually the Head of a College. But the Chancellors, though nonresident, were by no means disposed to treat their office as a sinecure; their *raison d'être*, in fact, was to protect the interests of the University at Court, and at the same time to govern it in accordance with the political and religious policy of the government for the time being. Laud might be trusted to avail himself to the full of the opportunities which he enjoyed as Archbishop, as Chancellor and as Visitor of two important Colleges. Nothing was too minute for this ecclesiastical disciplinarian, whose insistence on the "four surplices at All-hallowtide" in every parish cost the Church of England so dear. As Visitor of All Souls' he required the Warden to insist that the Fellows "use not long undecent hair, nor wear large fulling bands, nor boots under their gowns, nor any other like unstatutable novelty." Preachers who attacked Pelagianism or Arminianism or ceremonialism, were imprisoned or banished the University, or at least required to read recantations on bended knees in the Convocation house. At the same time Laud was a real patron of learning, bestowed a valuable collection of Oriental and other Mss. upon the great Library founded by Sir Thomas Bodley in 1602, and endowed a professorship of Arabic. But the greatest memorial of his Chancellorship is the compilation of a new code of statutes, — the first systematic codification of the University's laws and customs which had ever been undertaken.

Since the close of the medieval period the old order of the University had been more and more falling to pieces. The statutes had largely become obsolete; it was hardly known which of them had been and which had not been legally repealed; the old machinery of lectures in the schools, examinations, disputations, and other exercises for degrees, had little relation to the real studies of the place, which for the most part went on in the Colleges over which the University had no control. The old forms were sometimes kept up, sometimes dropped. On paper, the University was still the University of the Middle Ages, teaching scholasticism in its public schools; in practice it had become an aggregate of almost autonomous Colleges, which taught no doubt with some of the old-time knowledge the learning of the Renaissance and the Reformation. It is unnecessary to trace the various attempts at reform of the University constitution which took place in the course of the sixteenth century and the first half of the seventeenth. Laud's more vigorous exertions led to the enactment in 1636, — by the combined authority of the University, the Chancellor (to whom the University had conceded special powers in the matter), and the Crown, — of the code under which (with very few alterations or additions) the University nominally lived down to the middle of the nineteenth century. Although the University still remained without any effective control over the internal affairs of those societies, the Laudian Statutes recognized the fact that the University had largely become a federation of Colleges. The "Heads of "Houses" (*i.e.* of Colleges and Halls), with the addition of the two Proctors, were now constituted into a probouleutic Council, without whose consent no permanent statute or temporary "decree" could be brought before the "Convocation" of Doctors and Masters of Arts; and the old "Black Congregation" was abolished. A small body of Heads could be more easily managed by the authorities than the democracy of young Fellows. This body held weekly meetings and acted as the supreme executive of the University; it was commonly known as the Hebdomadal Board. The Vice Chancellor was always to be the Head of a College, nominated by the Chancellor for a year at a time. In practice, he was frequently reappointed, — in modern times usually for four successive years. The Proctors were now nominated by the Colleges in turn, and in various ways the Colleges and their officers received a recognition from the University authorities, though the attempt to secure control of them by the University, *e.g.* by giving the Vice Chancellor power to remove Tutors, did not practically amount to much. The Statutes did not merely stereotype the organization of the University; they attempted to regulate its studies. The medieval disputations were retained, but a regular examination for the degrees of B.A. and M.A. was added. And the attempt was made to galvanize into life the lectures in the public schools given by the Regents elected every two years — one in each of the "three Philosophies and seven Arts" in which there was no endowed Professor. Undergraduates and Bachelors of Arts were required to attend, for different parts of their



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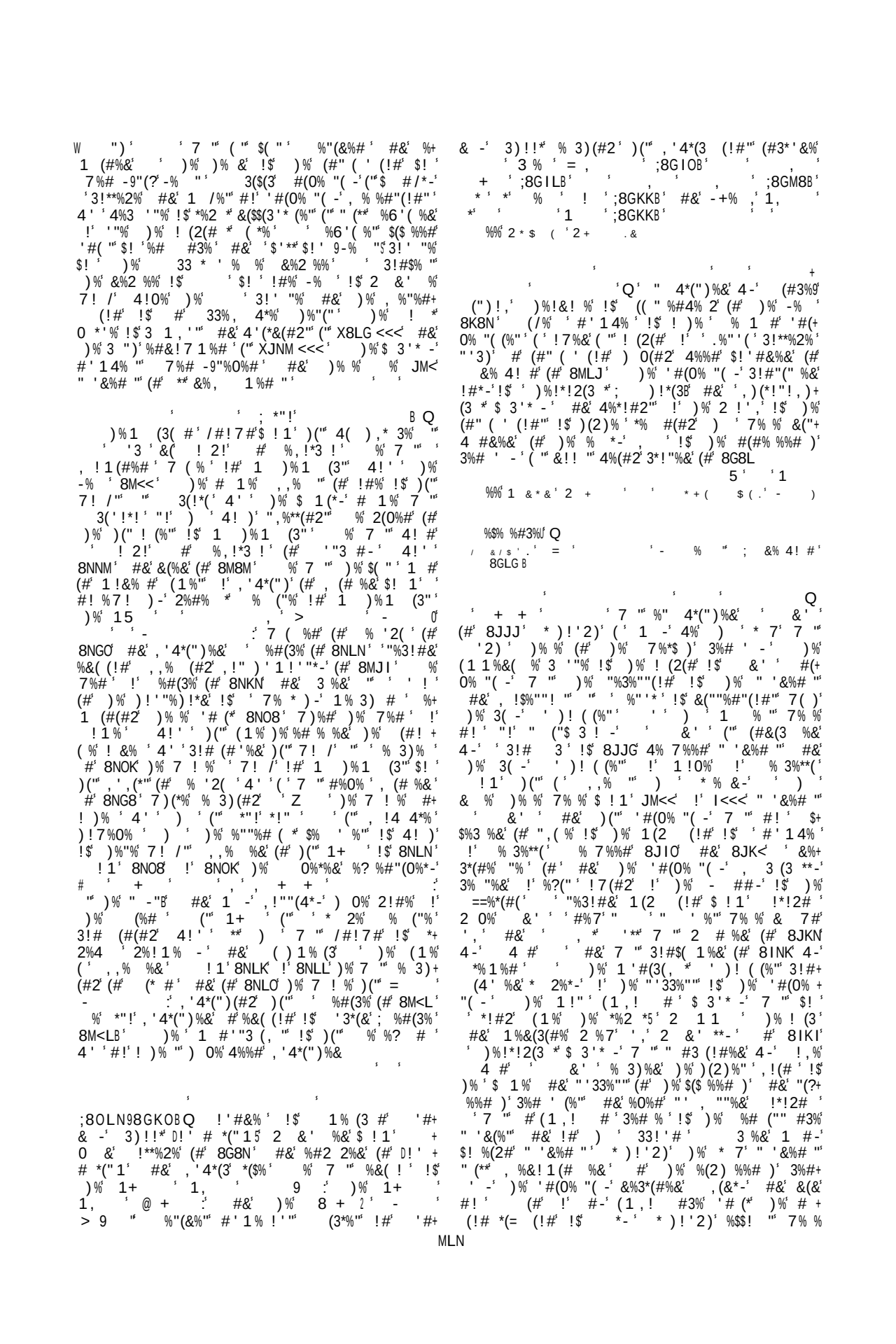

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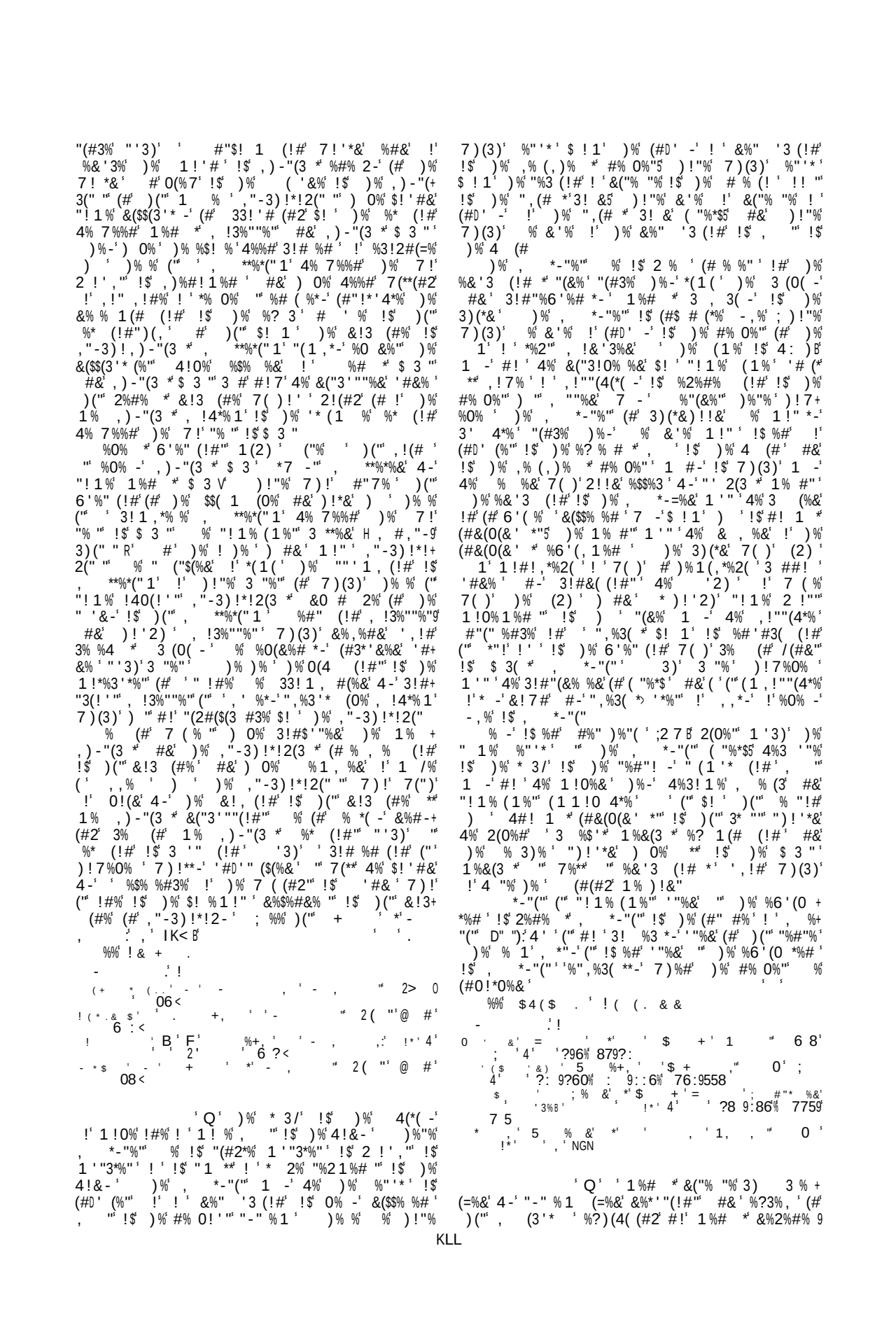

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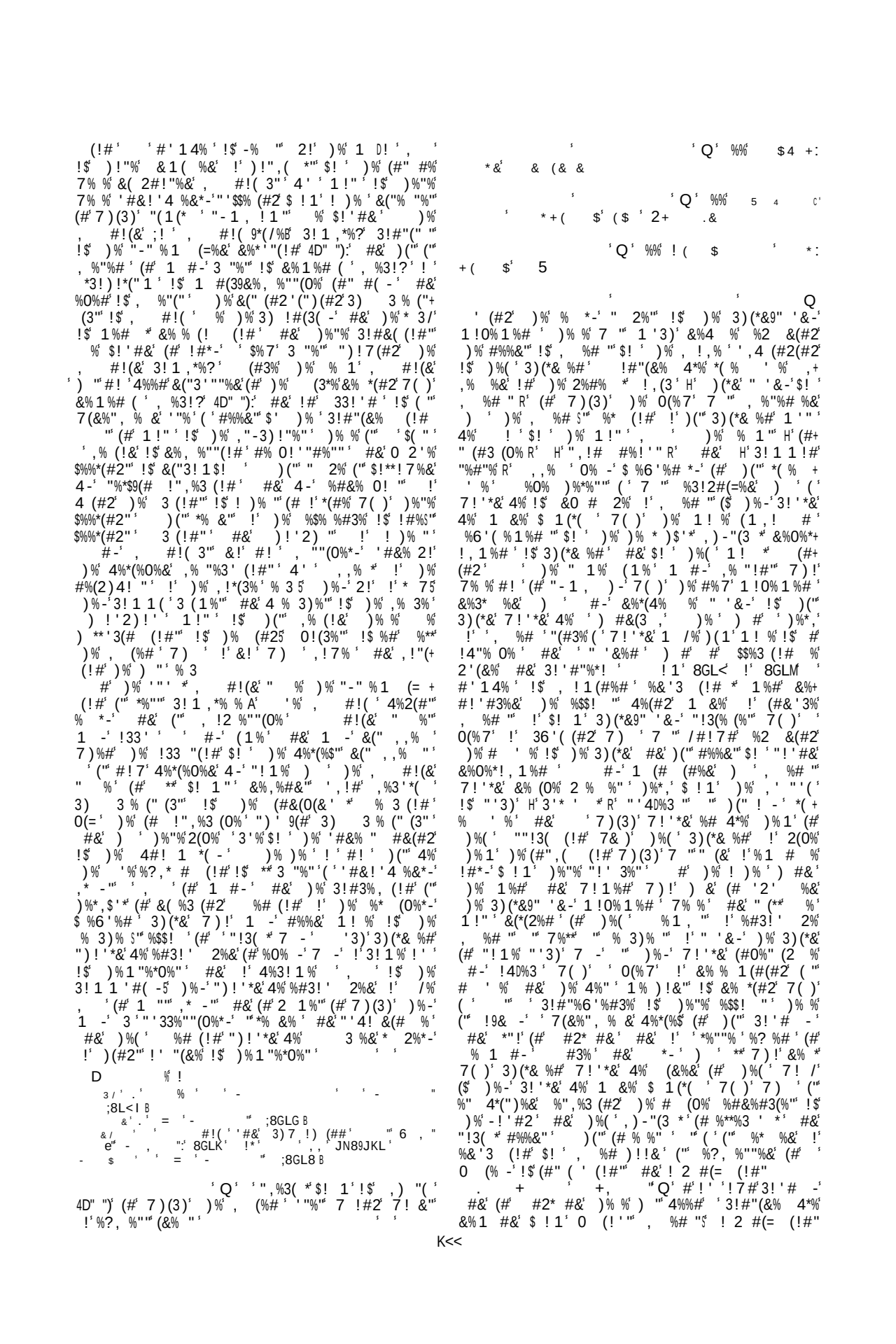

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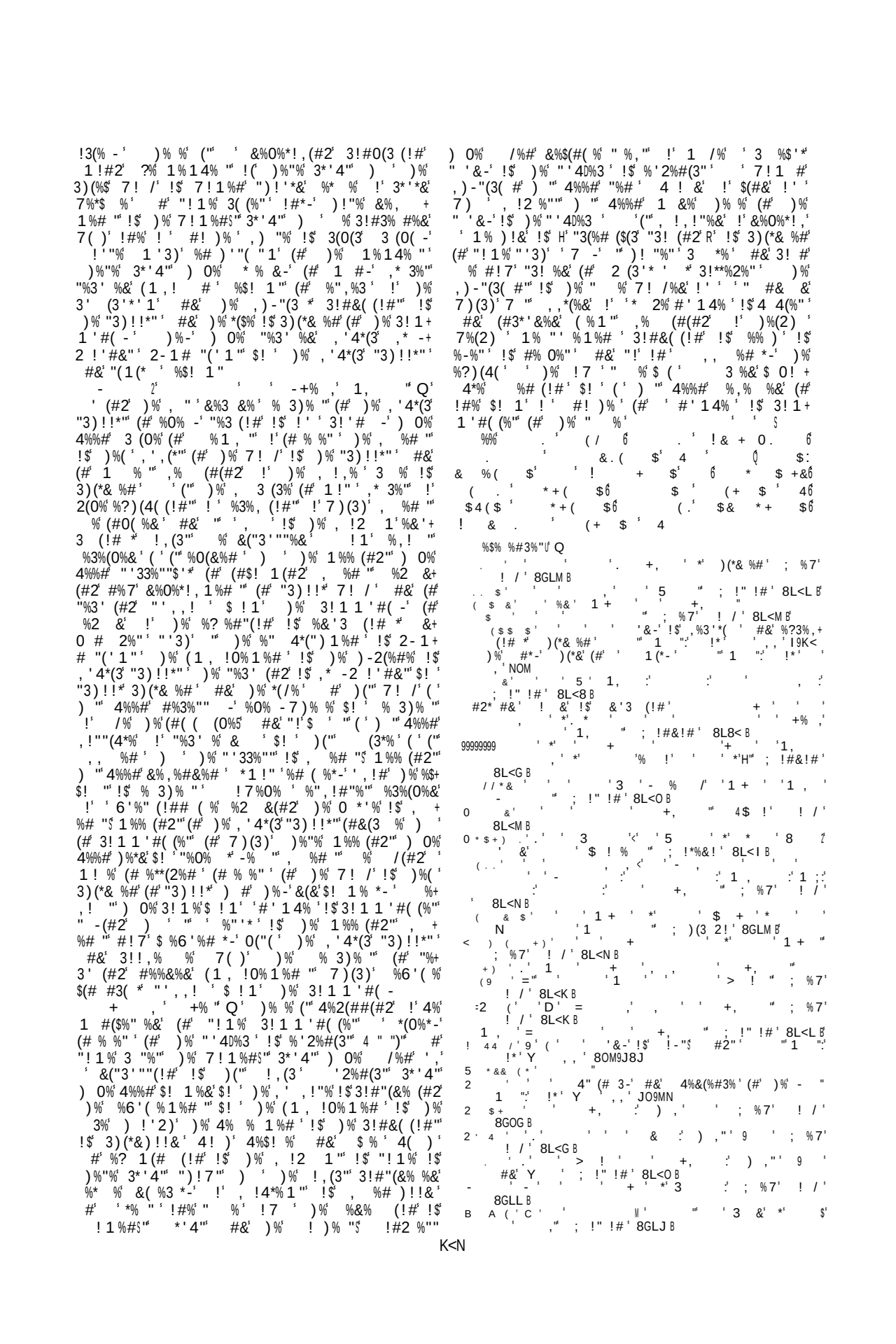

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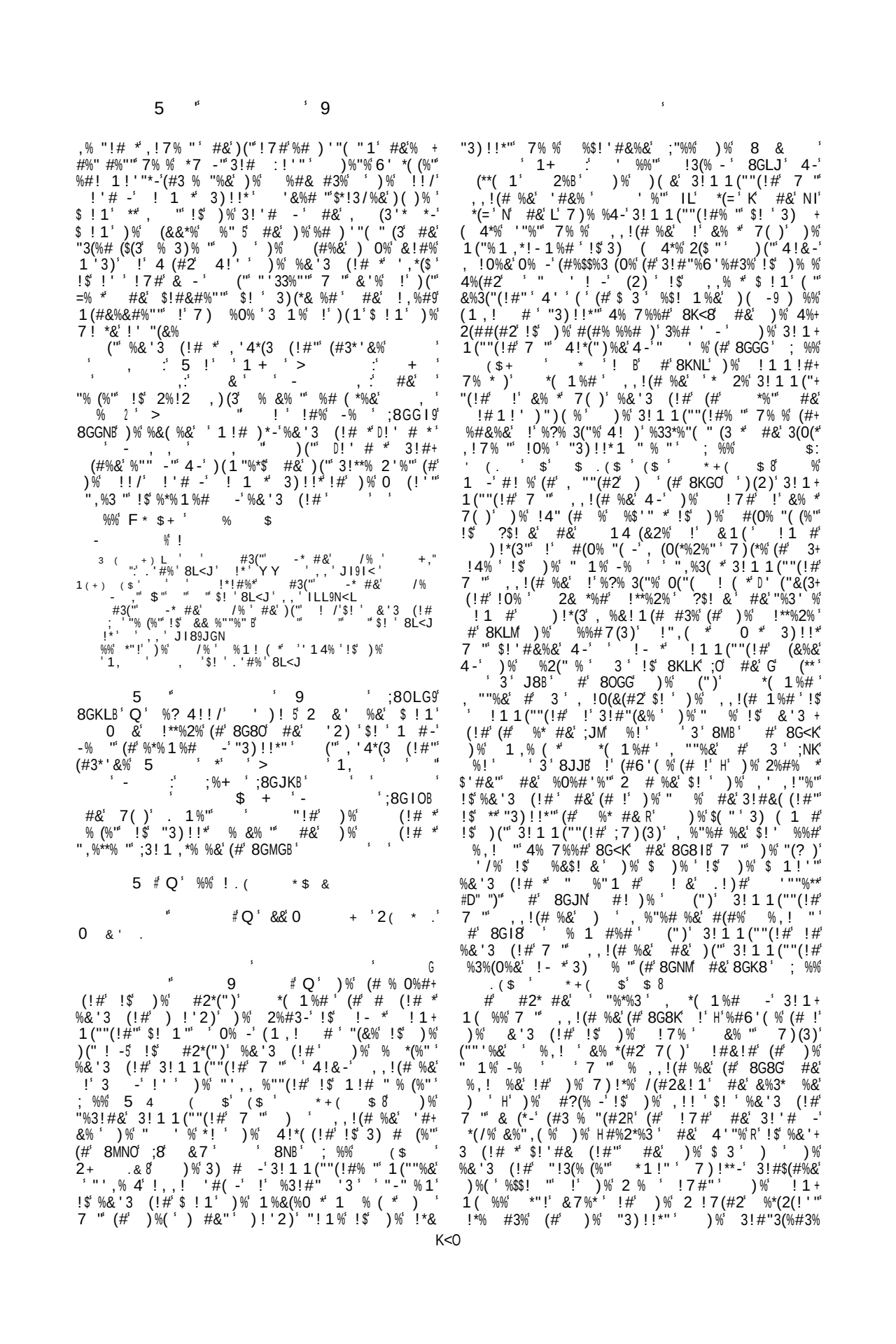

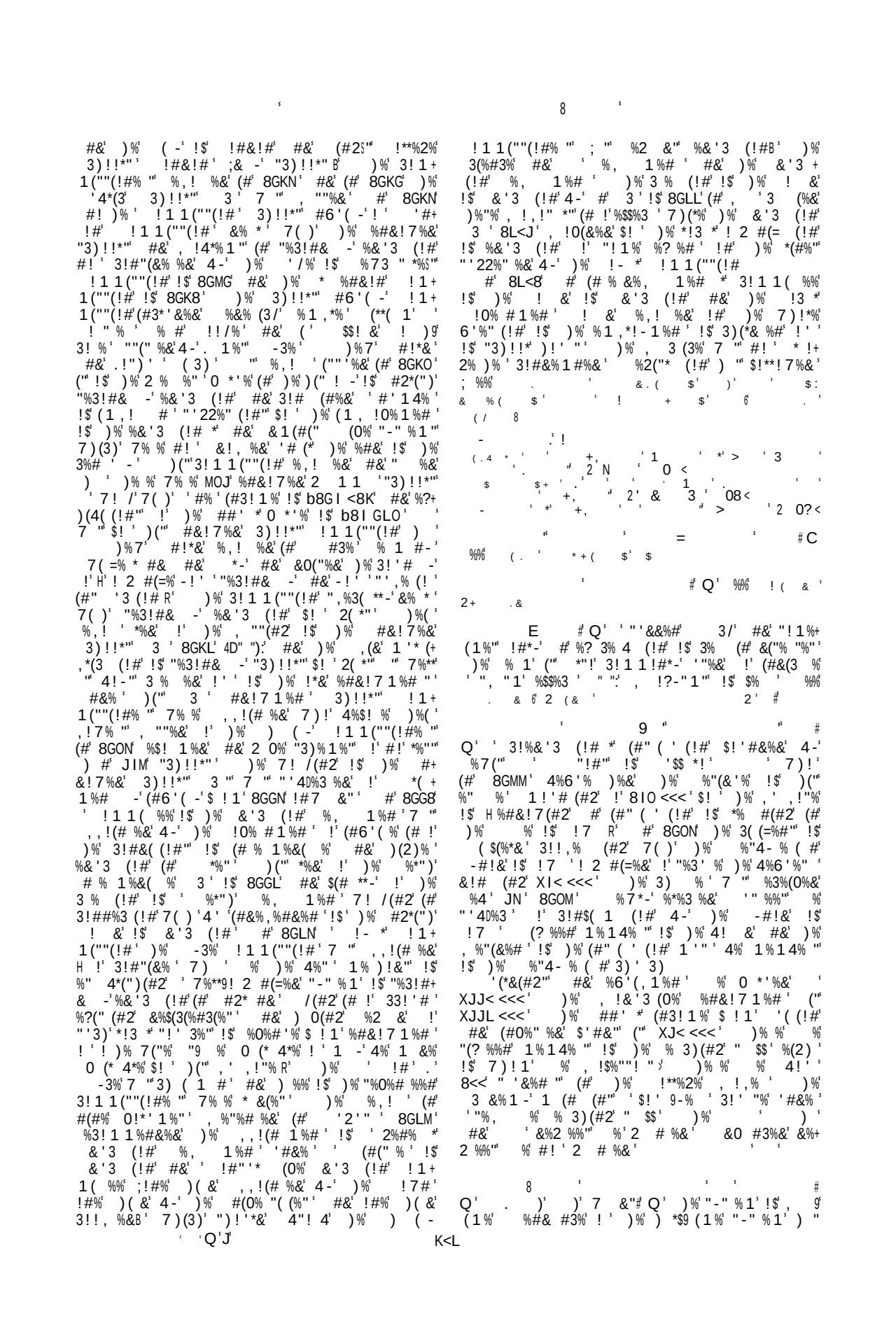

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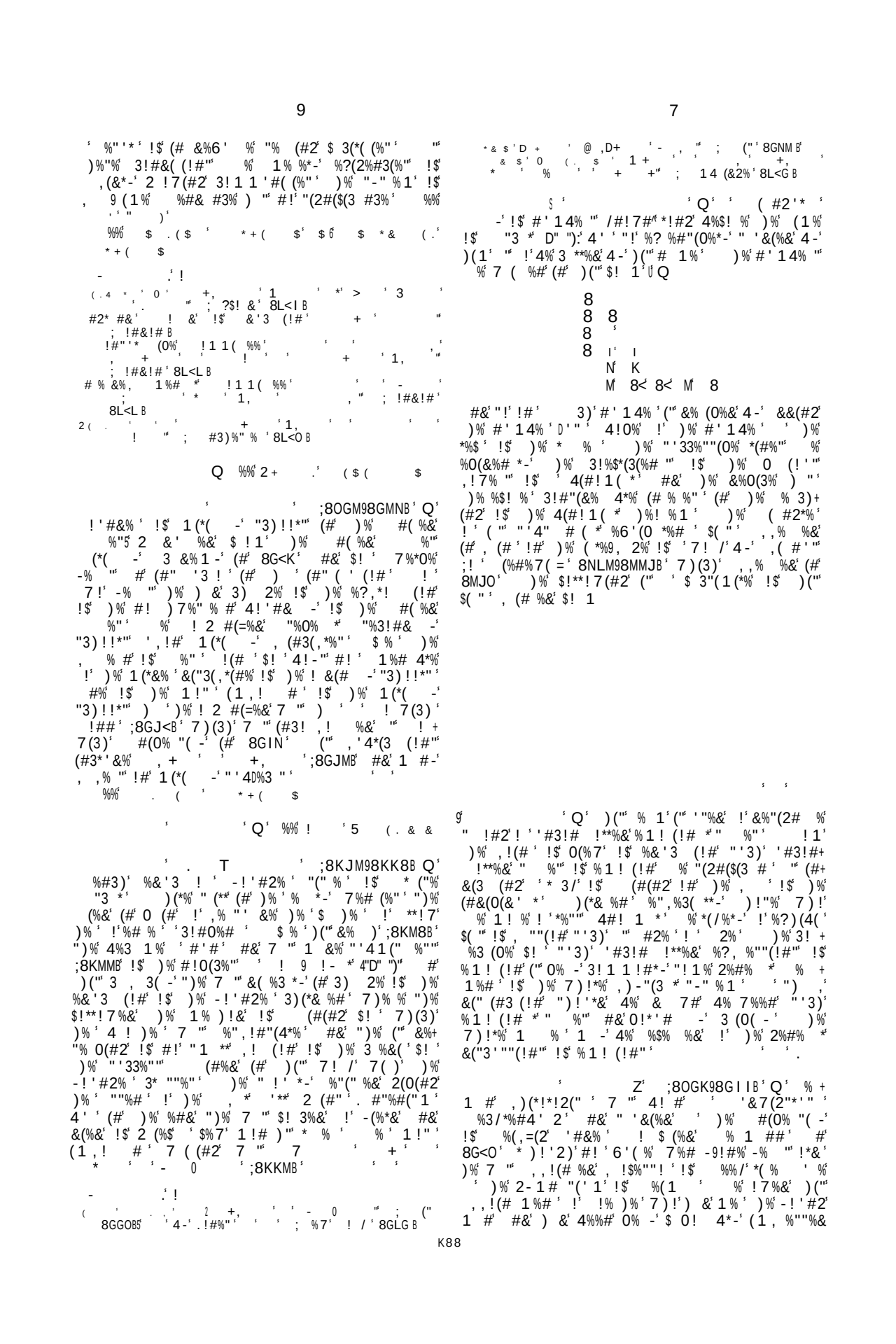
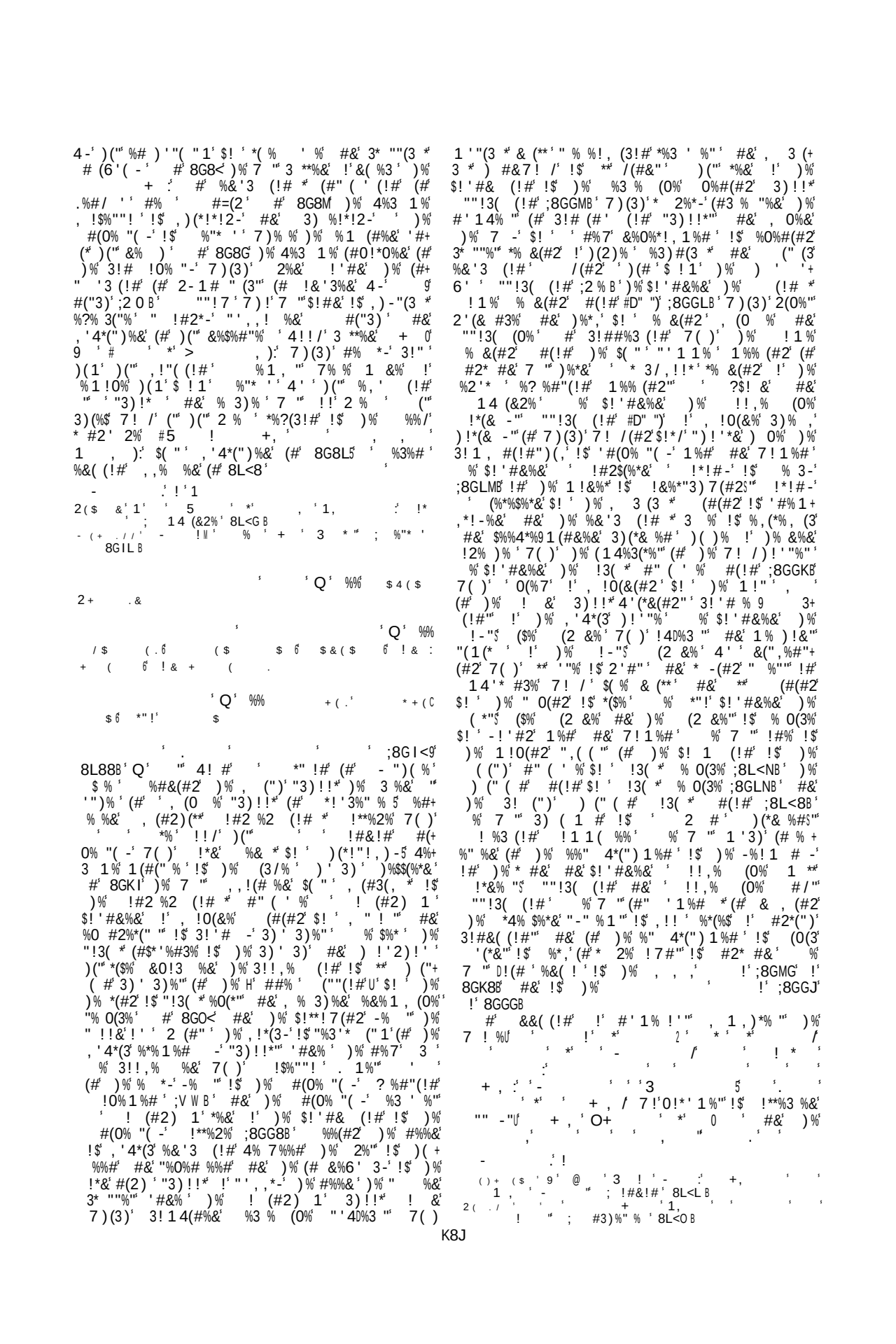
8GL<98GL8	8OI <N<
8GLM98GLK	88L ONO
8L<<98L<8	ON NKG
8L<M98L<K	G8 LG8
8L<L98L8<	OM OMG
8L8<98L88	O8 NOM





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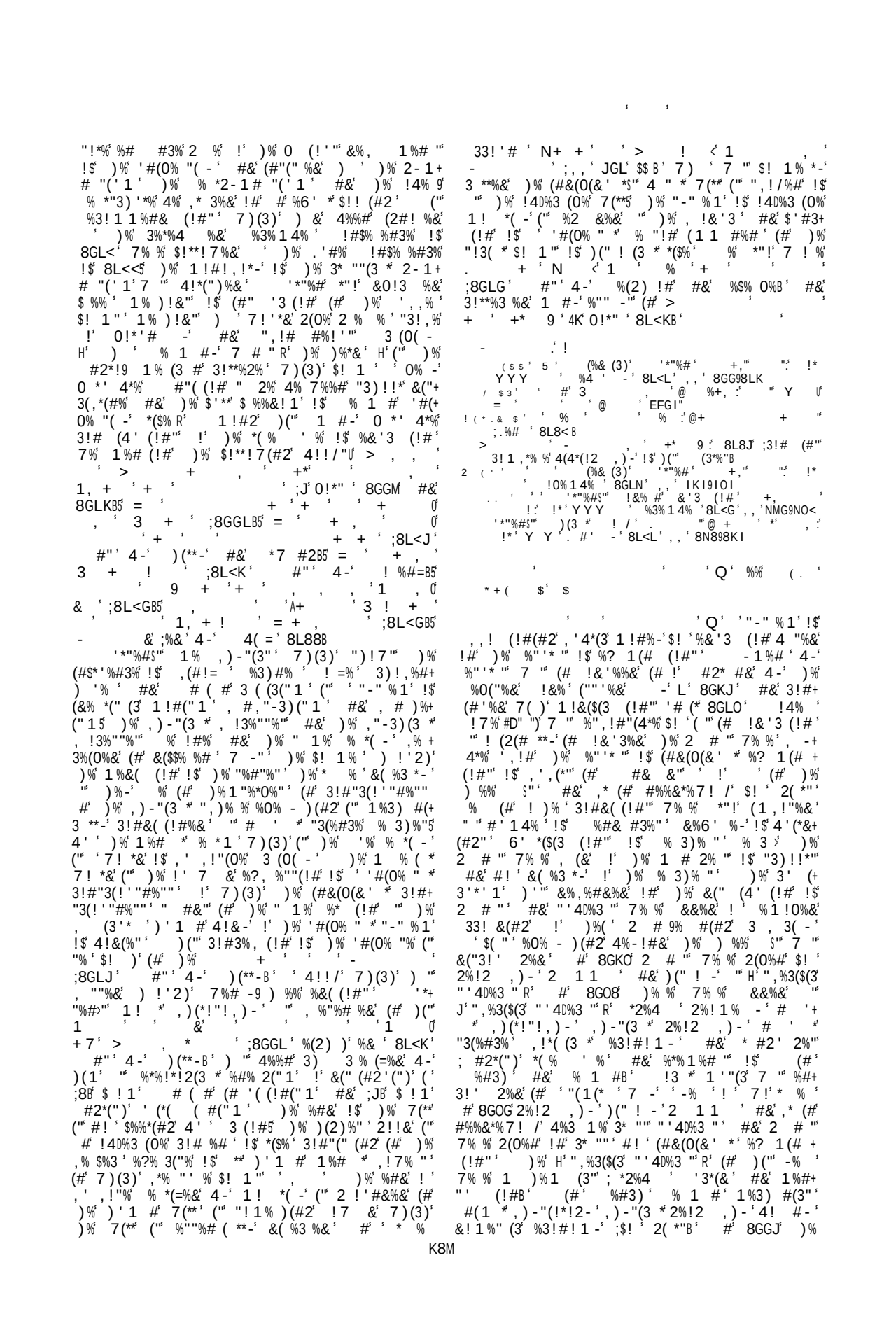

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#' 8GML' ")%' 4%3 1%' 36' (# %&' 7( )')%' %&'3 (!# *' (&% "' !$' !%4%*' #&')%' #%?' -% ' ")%' !,%#%&' ' /(#&% 2 %#' (#' !" !#' Q')%' $("' (#' 1% (3 ' #' 8GKO' ")%' 7%#' !' ' !,%' !' "' '&-' /(#&% 2 %#' , (#3(,*%"' #&' , 3 (3%"' ' $("') #&' #&') !'2)')%' (#+ $*'%#3%' 1 1 ' 7%&%*' #D" ")' #&' "%O% *' !)%'?,% (%#3%&' % 1 #' /(#&% 2 #% "' 7% %' (#&'3%&' !' 3!1%' !' 1% (3 ')%' #! + 1 *' 3* ""%"' 7)(3)' ")%' 3!#&'3 %&' (#' !" !#' (#%&' 1!"' !$')%' % *-', !1(#%#' 1% (3 #' /(#&% 2 #% "' ;(#3*'&(#2' ("" '3-')%%9' *!3/B' !1' 8GOI' !' 8GOO' ("" % 4!&-' %&(%&')%' N .' #&' (#' 8GOO')%' 1% (3 #' !%4%*' #(!#'!$'7)(3)')%' 7 "')%' $("', %"(&%#' 7 "' $! 1%& %', '4*(3 (!#"' (#3*'&%' 5 % !' 5 .' > , ' 5 .' ' 1 ' ' 5 .' , ' 5 ' *' ' ' 1 .' , ' *' '1, ' ; #' 33!'#' !$' ' *3! $"' %1,*%' 3)!!*B' ' N .' +, ' ' ' 5 .' ' N .' ' - ' 1, .' >+ ' ' ' N ' ' ' + + ' *'. * , ';7( )')%' "(" %' " ' ! 3%' ##B' , + ' ' ' ' 1, ' * ' N .' N ' ' . .' #&' ' #"* (!#'!$' = ' > 2' ' 1 *0 + , ")%' *"!' 3!# (4' %&' "%O% *' , ,%" !' %# -' # &$"' 3!1, %)%#"(O%' 0!*'1%' N ' ' ' + + " ("" % + 4!&-' 7 "' (# % %" %&'#!'!#*-'(#')%' /(#&% 2 + %#' 4' ' (#' **' ,) "%"' !$' %&'3 (!# *' 7! /' (#3*'&(#2')%' %&'3 (!#' !$')%' 1% (3 #' #&(#')%' &(%&' ' !" !#')%' M)' !$'. #'+ - 8GLN' %%% < $) (/ $

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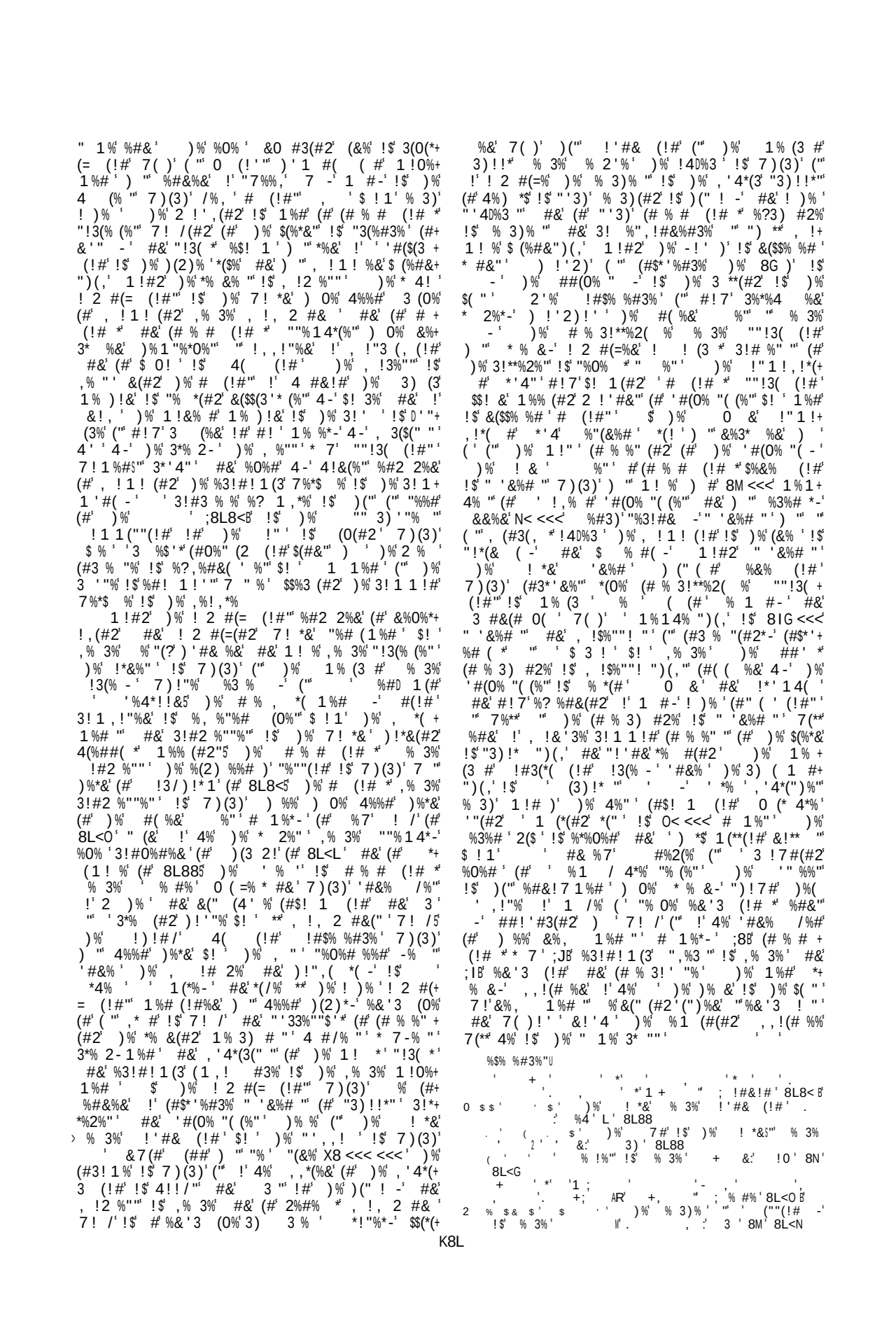

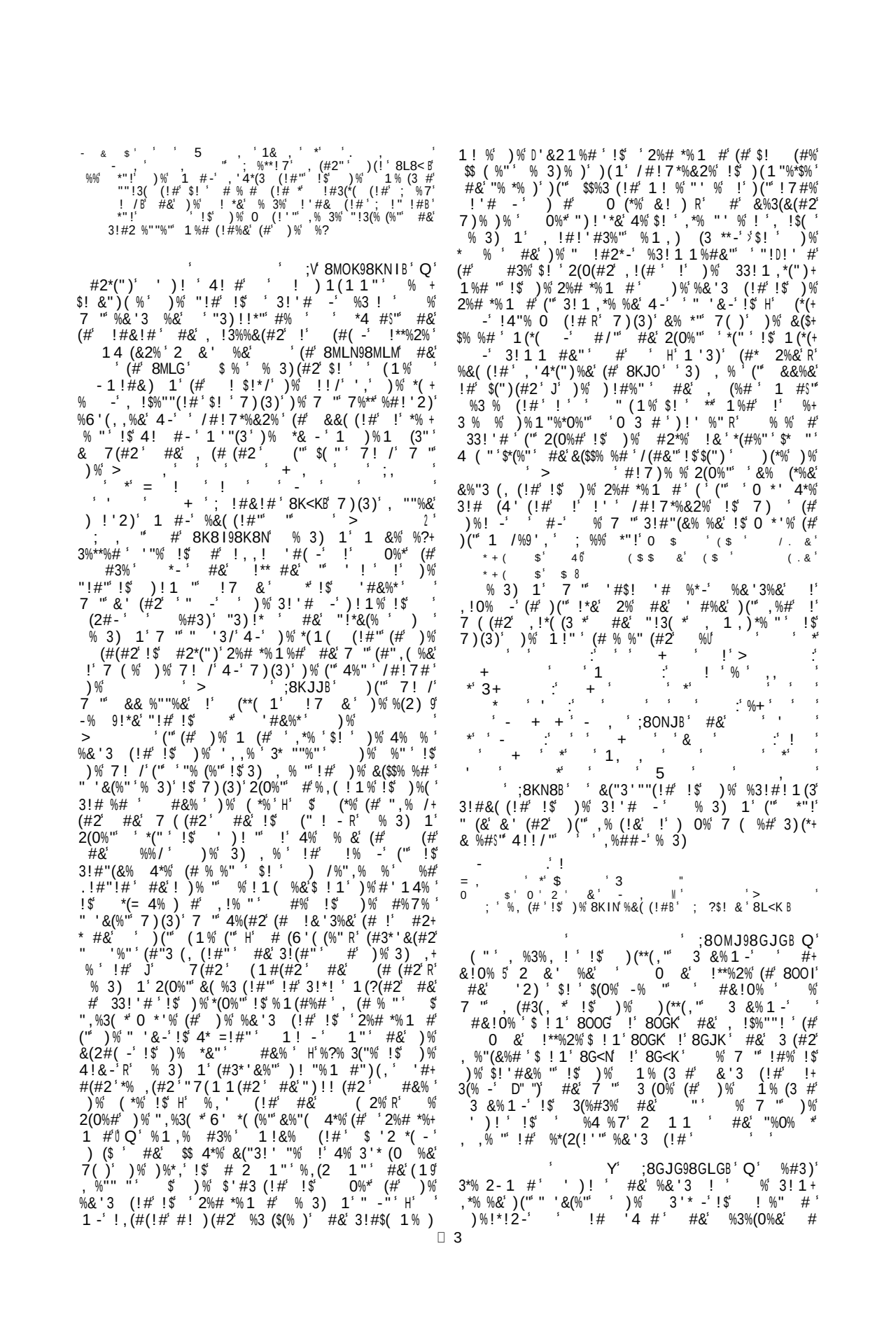

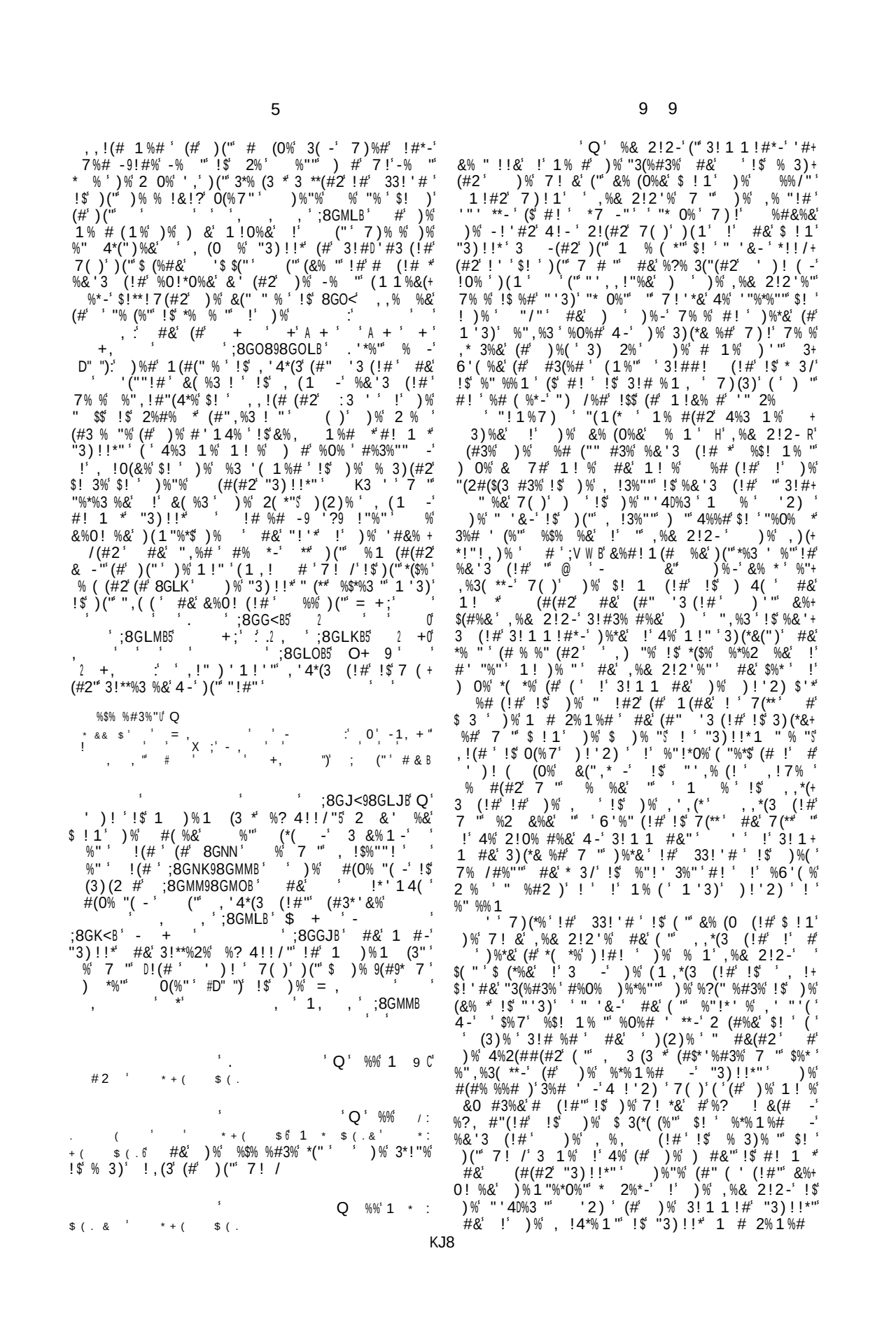

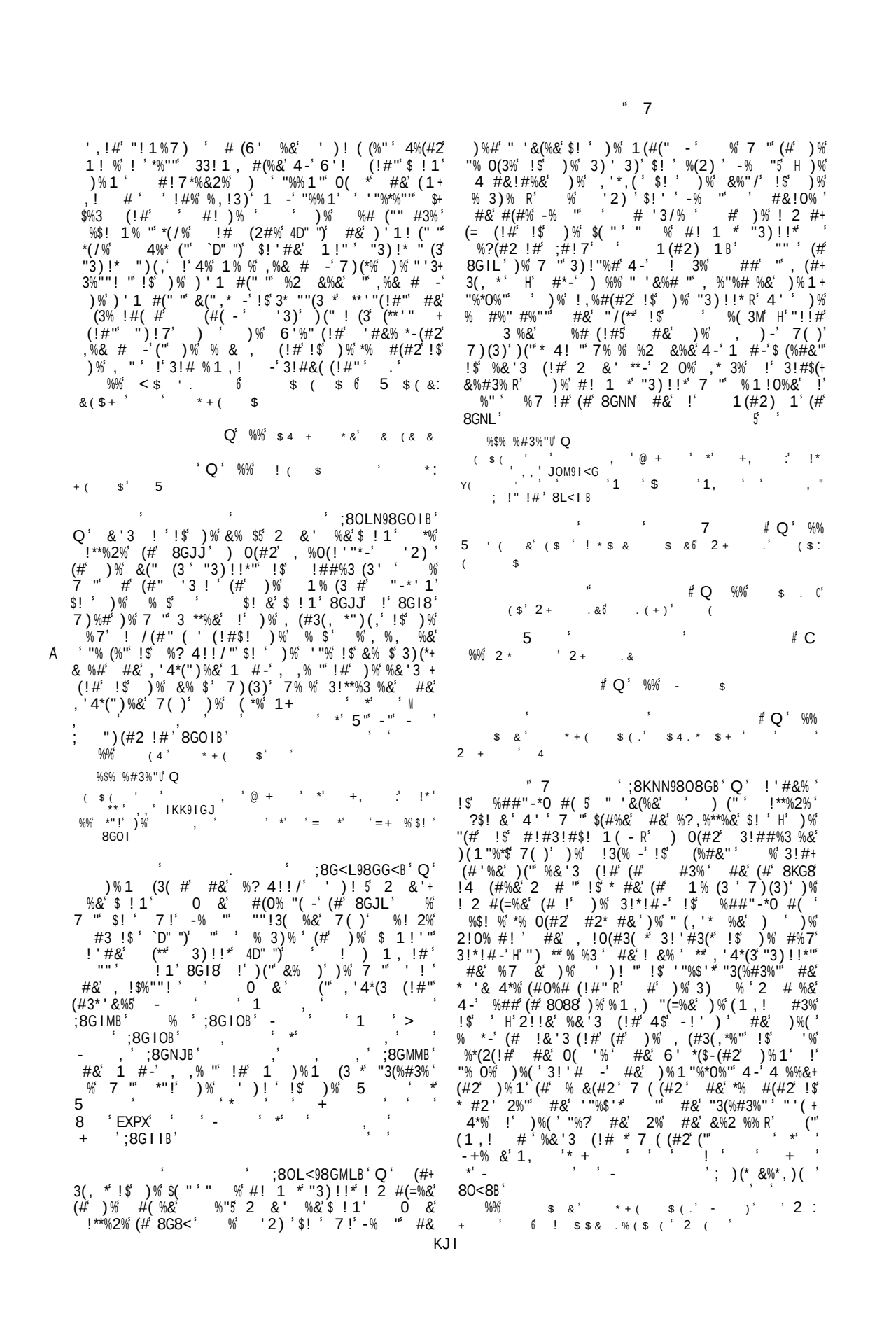

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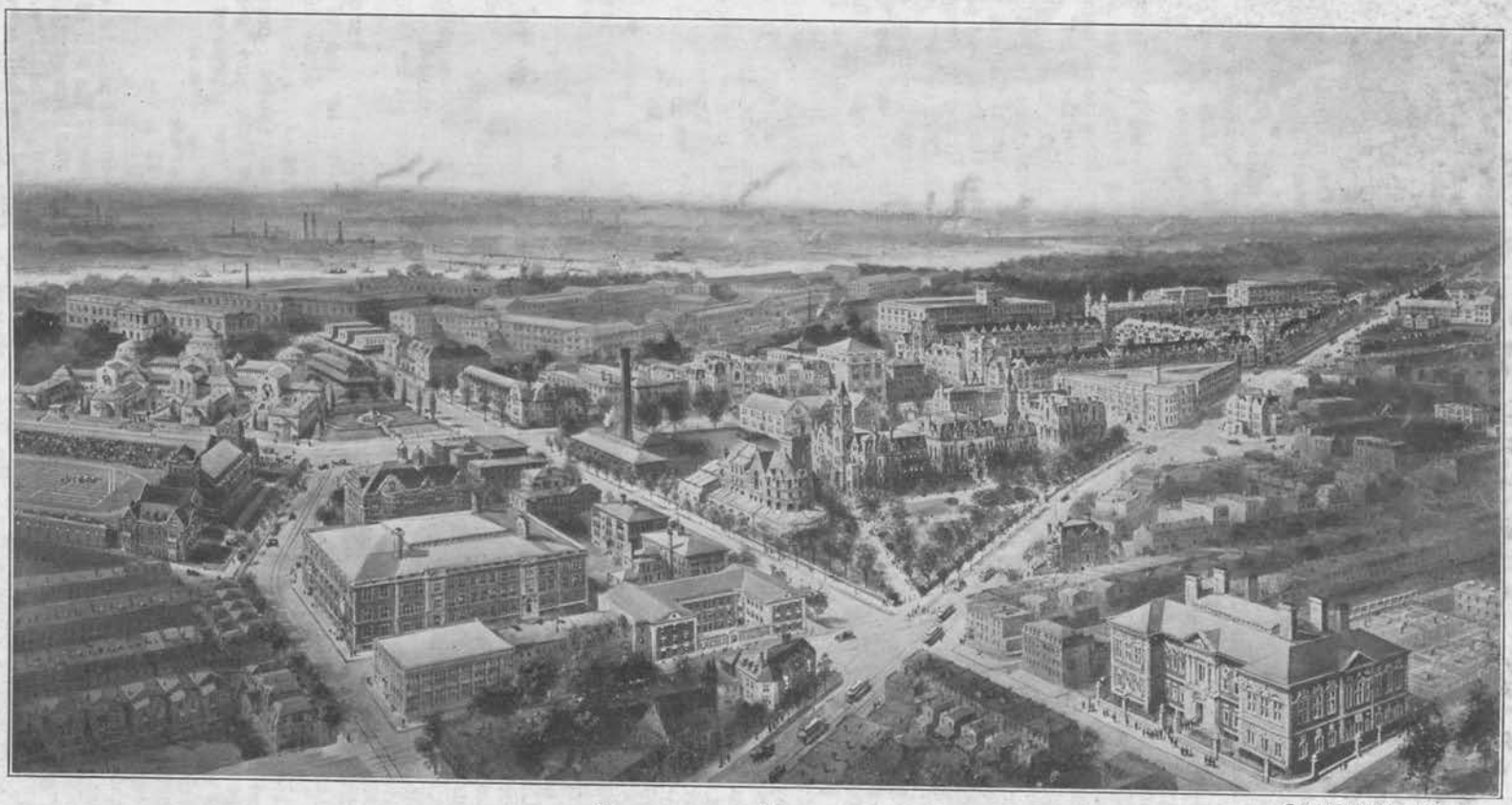
ter which confirmed the first, granted power to confer degrees, and changed the title of the board to "The Trustees of the College, Academy, and Charitable School of Philadelphia." The first commencement of the College, with a graduating class of seven young men, took place in May, 1757 After this its name and influence spread widely and it drew support from Maryland, Virginia, the Carolinas, and the West Indies. Dr. Smith planned the curriculum in 1756 to extend over three years, and to include Latin, Greek, mathematics, chemistry, philosophy, history, ethics, civil and international law. This plan laid the foundation for the educational system of the American college. Dr. Smith was a man of many interests, a church worker, an educator, a scientist, and at times an active politician. In the latter capacity he incurred the displeasure of the Provincial Assembly by an alleged libel against its privileges, and was thrown into jail, where he nevertheless continued to meet his classes. In 1759 he went to England for redress, and while abroad received honorary degrees from Oxford, Aberdeen, and Dublin. In 1762 he went again to England in the interests of the College. As the result of an appeal for aid to George III, to the Penns, and to the English people, he returned to America with slightly over £6000. This favor shown by George III later militated against the College, because it confirmed the feeling then existing that the College sided with Tory interests. Objections were made to the exercise of some of the rights under its charter. As a consequence of complaints, an act of Assembly in 1779 revoked the charters of 1753 and 1755, and formed a new corporation, "The Trustees of the University of the State of Pennsylvania." In 1789 this act was repealed, as a "violation of the Constitution of this Commonwealth," by a bill which once more secured to the College its privileges and franchises with Dr. Smith as Provost. But even thus the College and the University were separate, and there was not room for two institutions. The trustees of both accordingly applied to the assembly to have the charters of each surrendered, a new corporation created, and a board of trustees, representing both College and University, organized. The Assembly passed an act in September, 1791, uniting the University of the State of Pennsylvania and the College, Academy, and Charitable School of Philadelphia under the title "The Trustees of the University of Pennsylvania."

The new organization comprised three departments, the arts, medicine, and law. The department of arts embraced five separate schools under the care of six professors and their assistants. The medical school, the first in North America, had been founded in May, 1765, when Dr. John Morgan and Dr. William Shippen presented to the trustees a plan, approved by Thomas Penn, the Proprietor, for a course in medicine. Dr. Morgan was at once appointed Professor of the Theory and Practice of Physic, and Dr. Shippen, Professor of Anatomy and Surgery. In June, 1768, ten men were graduated with the degree of Bachelor of Medicine. By 1791 there were added to the medical faculty a chair of botany and materia medica and a chair of chemistry. The law school dates from 1790, when the trustees of the College elected to the first professorship of law in America Hon. James Wilson, then one of the Associate Justices of the Supreme Court of the United States.

Dr. Ewing succeeded Dr. Smith as Provost in 1791. During Ewing's administration the University moved from its old home on Fourth Street to a building on the West Side of Ninth Street between Market and Chestnut streets, erected by the legislature in 1791, before the removal of the National Capitol to Washington, as a home for the President of the United States. This the University bought in 1800, and occupied from 1802 to 1829, when it was replaced by two large buildings occupied respectively by the College and the Medical School until 1873, when the University removed to its present site in West Philadelphia. In 1807 Dr. Ewing died. The administrations of Provosts McDowell, Andrews, and Beaseley extended to 1828. In spite of attempted reorganizations, the classes diminished in size and public support ran low. Provosts DeLancey, Ludlow, Vethake, and Goodwin, notwithstanding their short administrations, brought to the University once more the spirit of progress and discipline. The enrollment increased, the law school was revived in 1850 by Judge Sharswood, and the auxiliary department of medicine founded in 1865.

It remained, however, for Dr. Stillé, who became Provost in 1868, to reorganize the administration. Dr. Stillé was a man of unusual zeal, energy, and insight. He revised the curriculum, and introduced on its adoption by the Board of Trustees in 1866 an elective system of studies. The Board of Trustees set about to increase the endowment. It suggested that the City should sell to the University at a nominal figure some twenty-five or thirty acres of the almshouse farm in West Philadelphia. Of this, part was to be a new site for the University, and part to be sold, as occasion should present, to increase the endowment fund. Ten acres of land were bought at $8000 per acre. On this new ground was laid in June, 1871, the corner stone of the present College Hall. In 1875 the department of science, founded in 1852, was endowed under the provisions of the will of John Henry Towne, Esq., and was thenceforth called by the Board of Trustees "The Towne Scientific School." Five and one half acres more were secured in 1872 for the site of a hospital,



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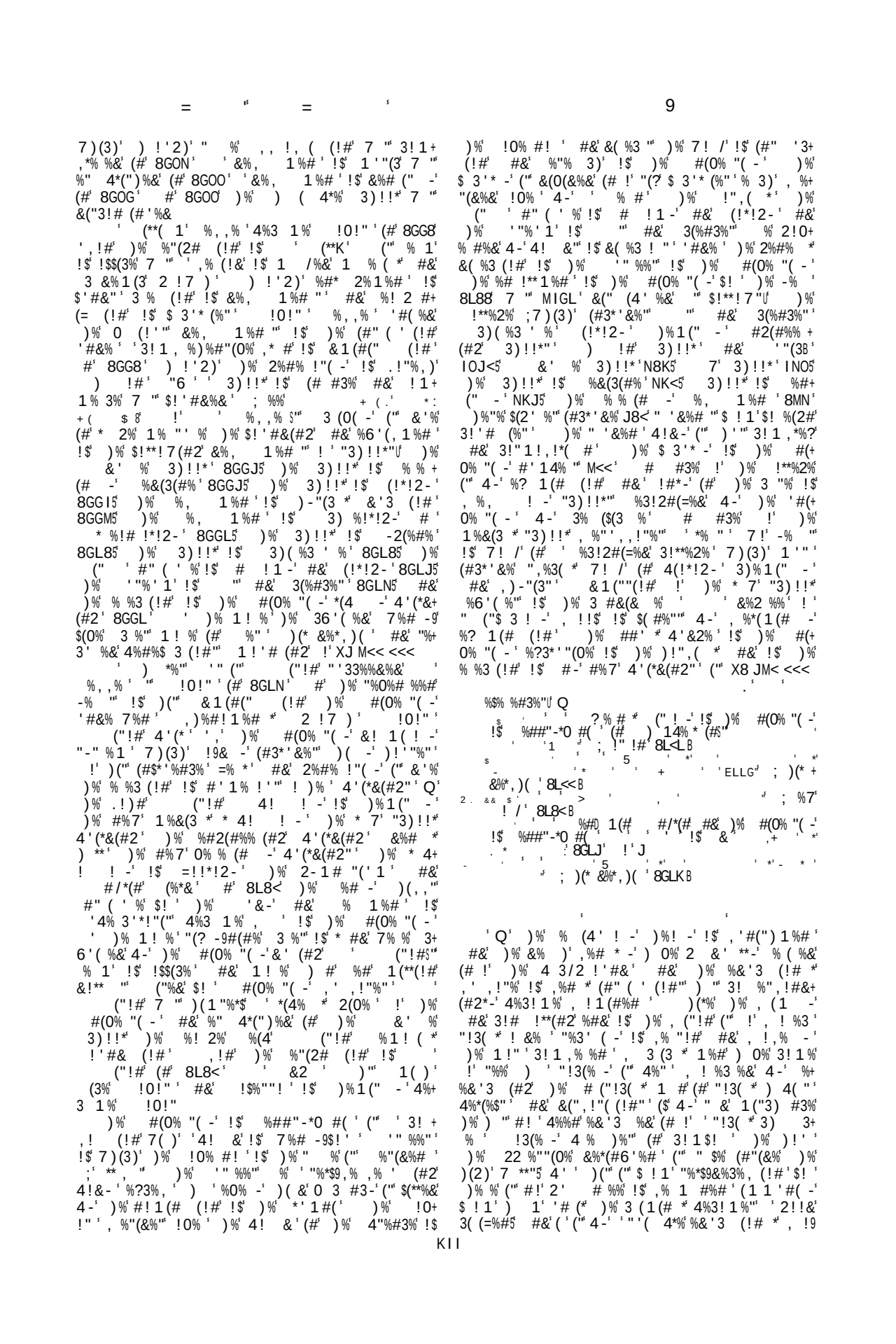

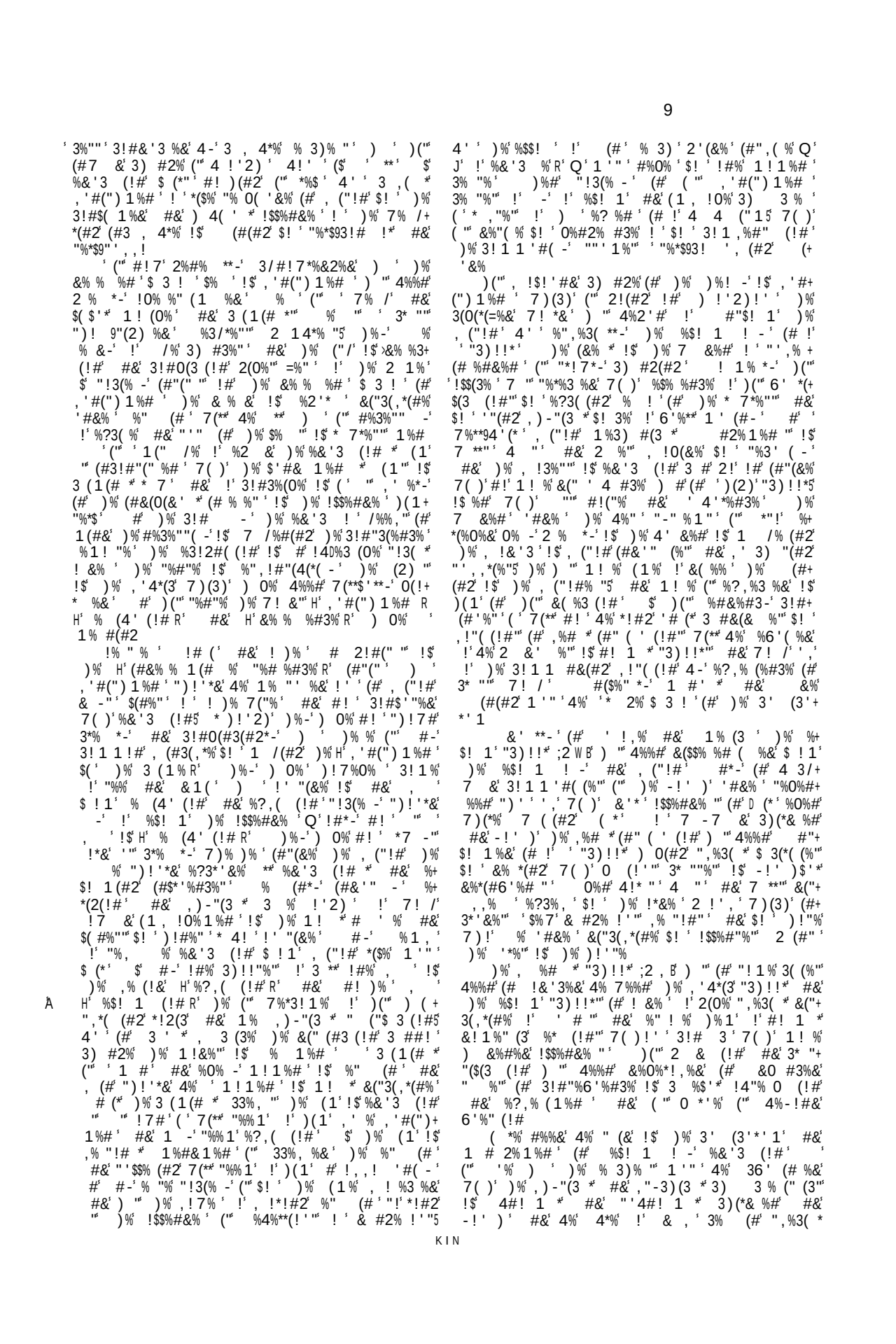

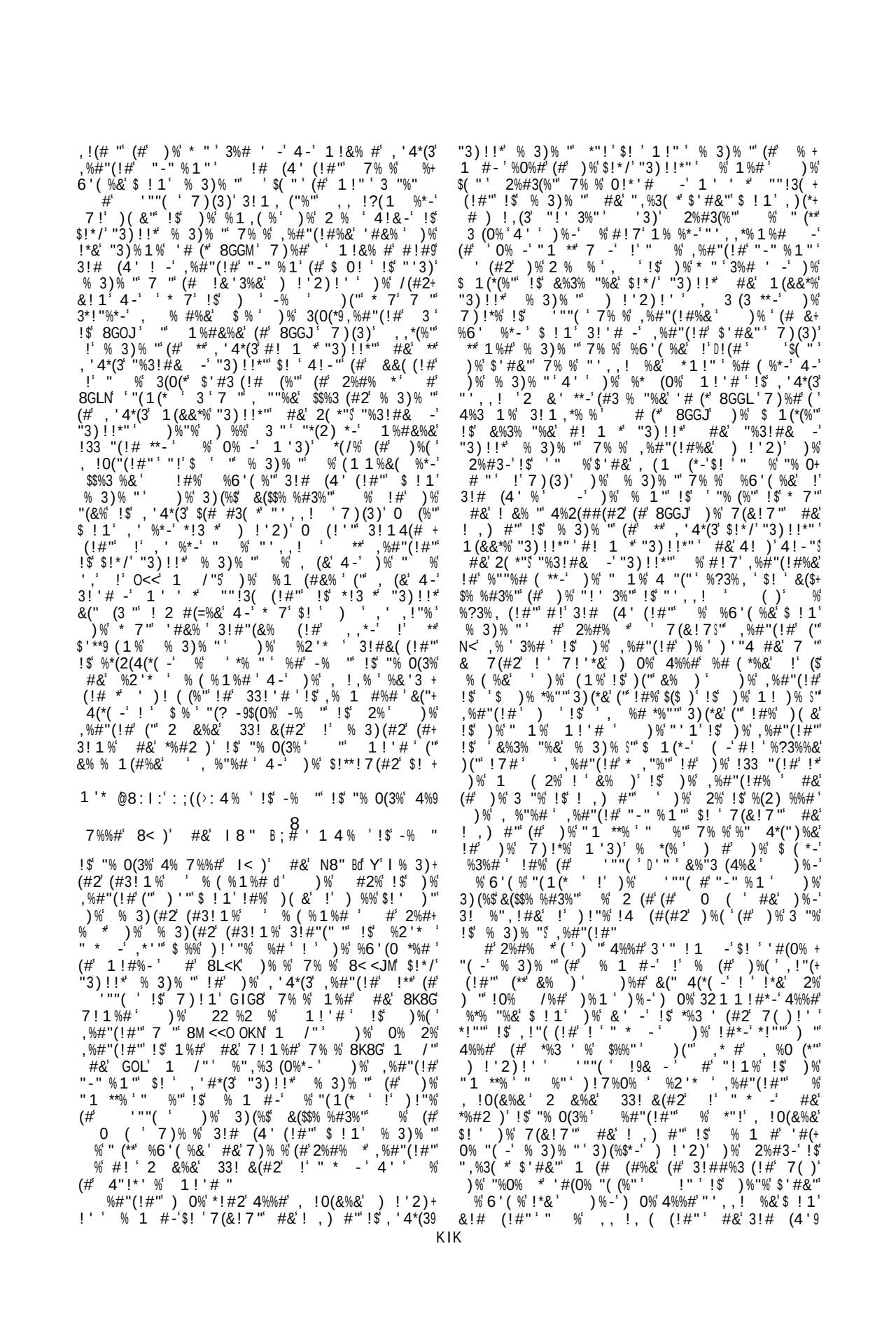

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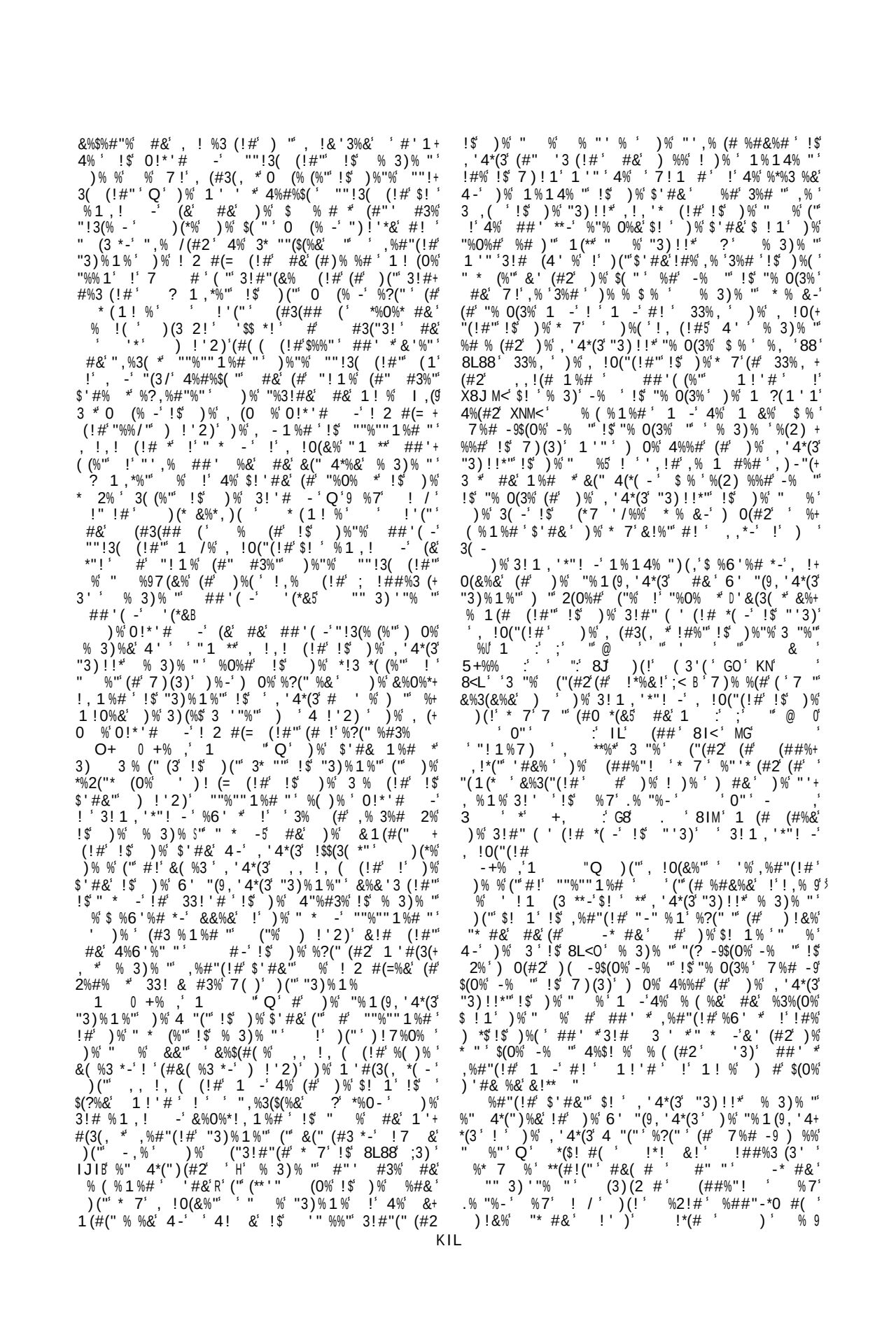

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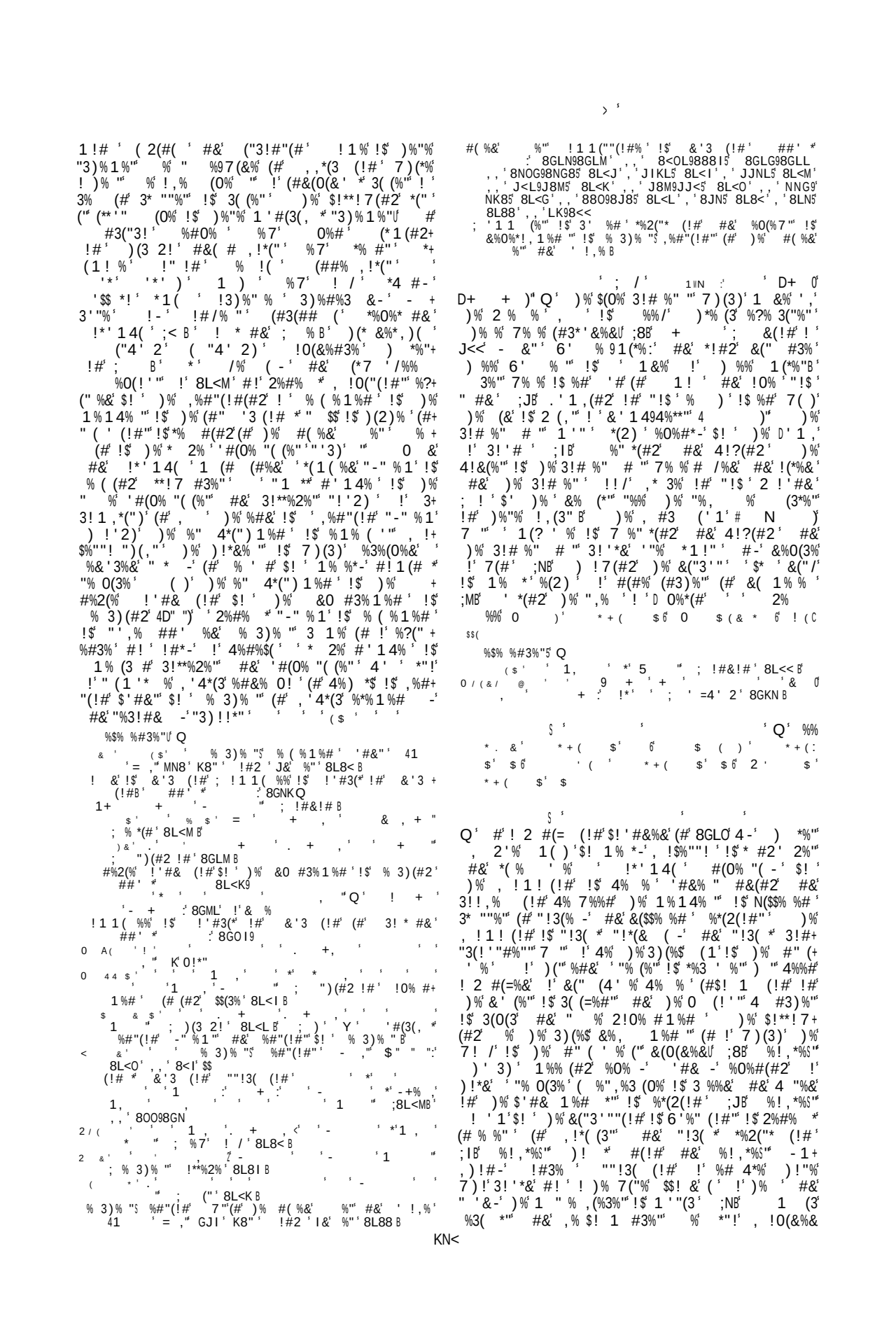

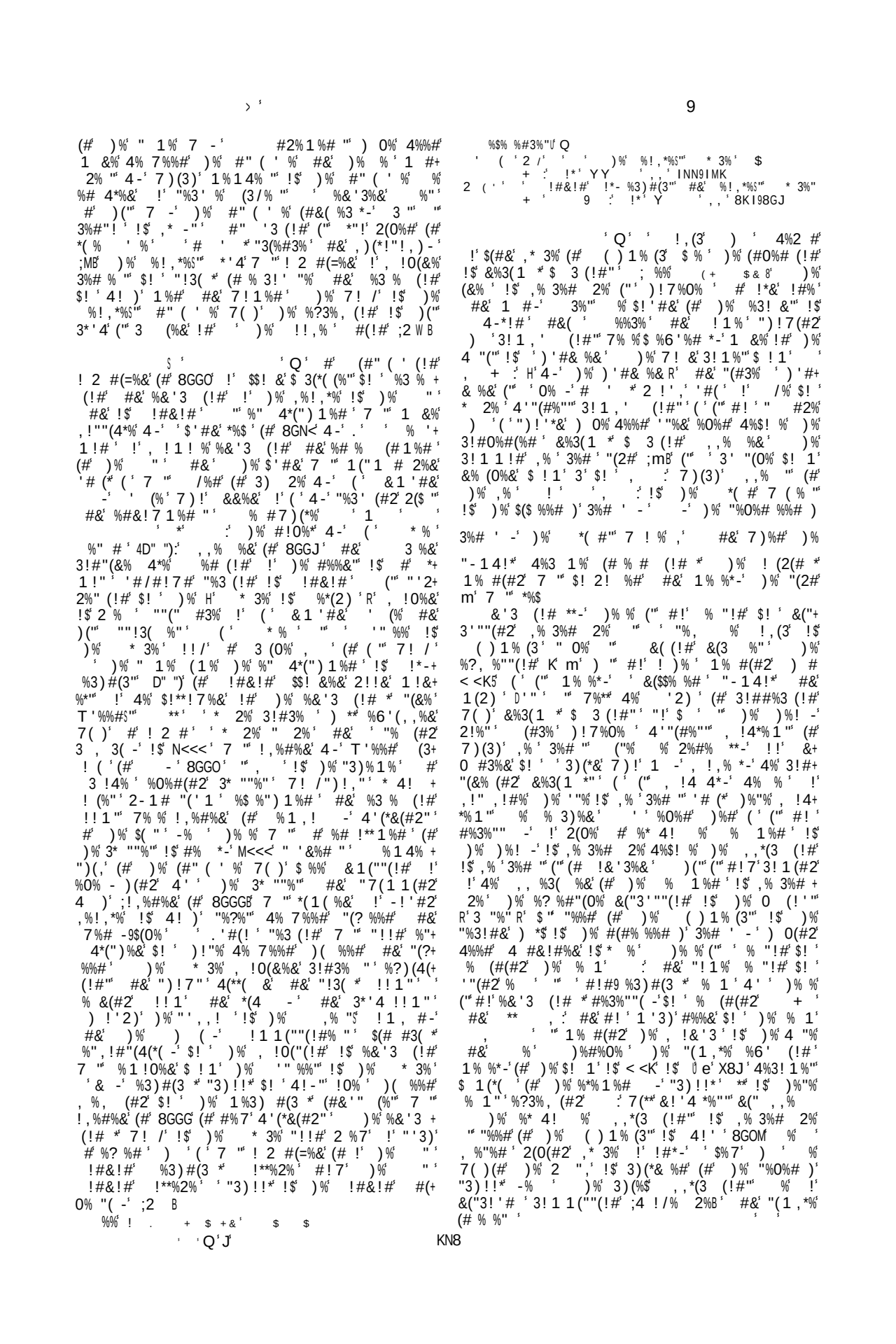

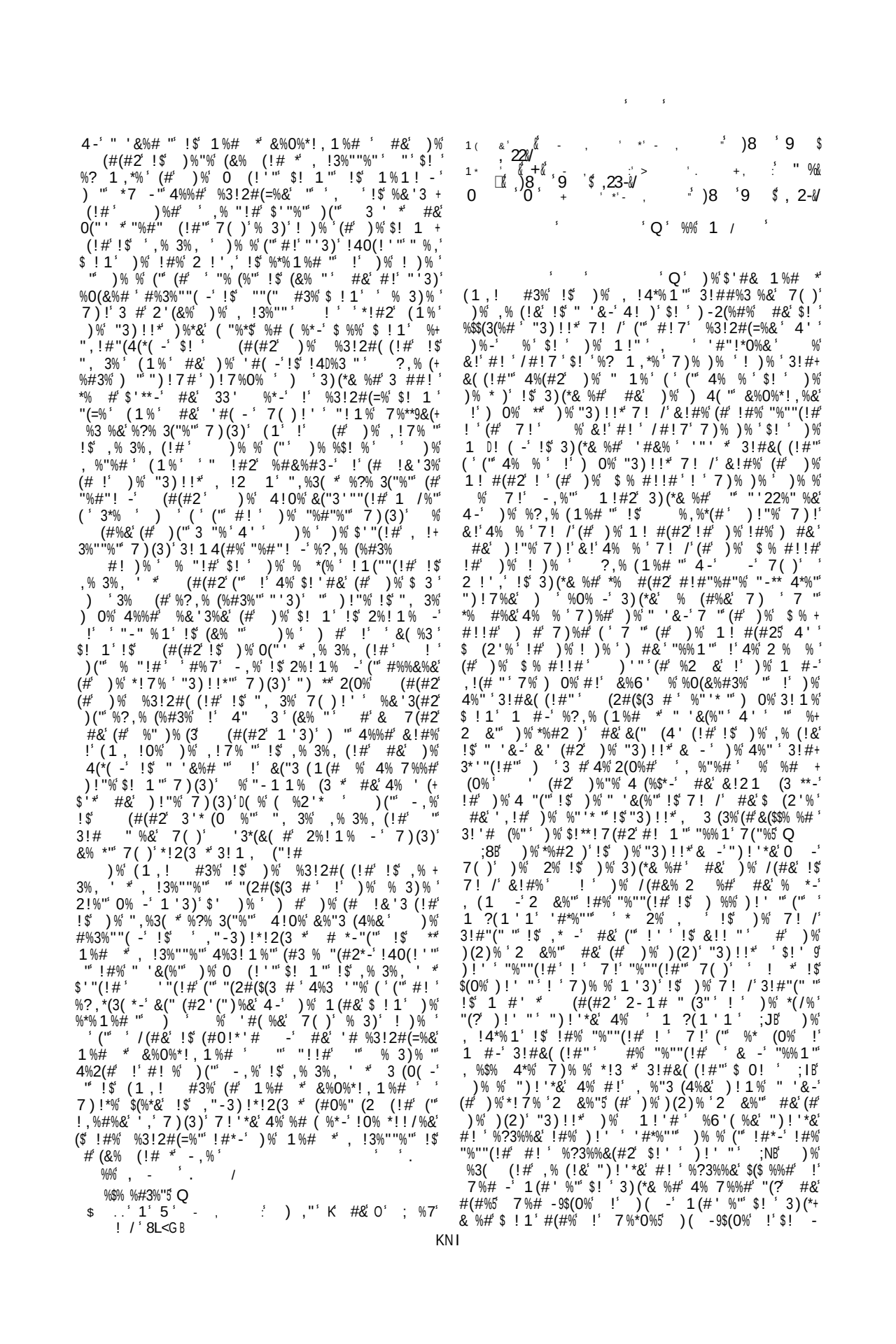

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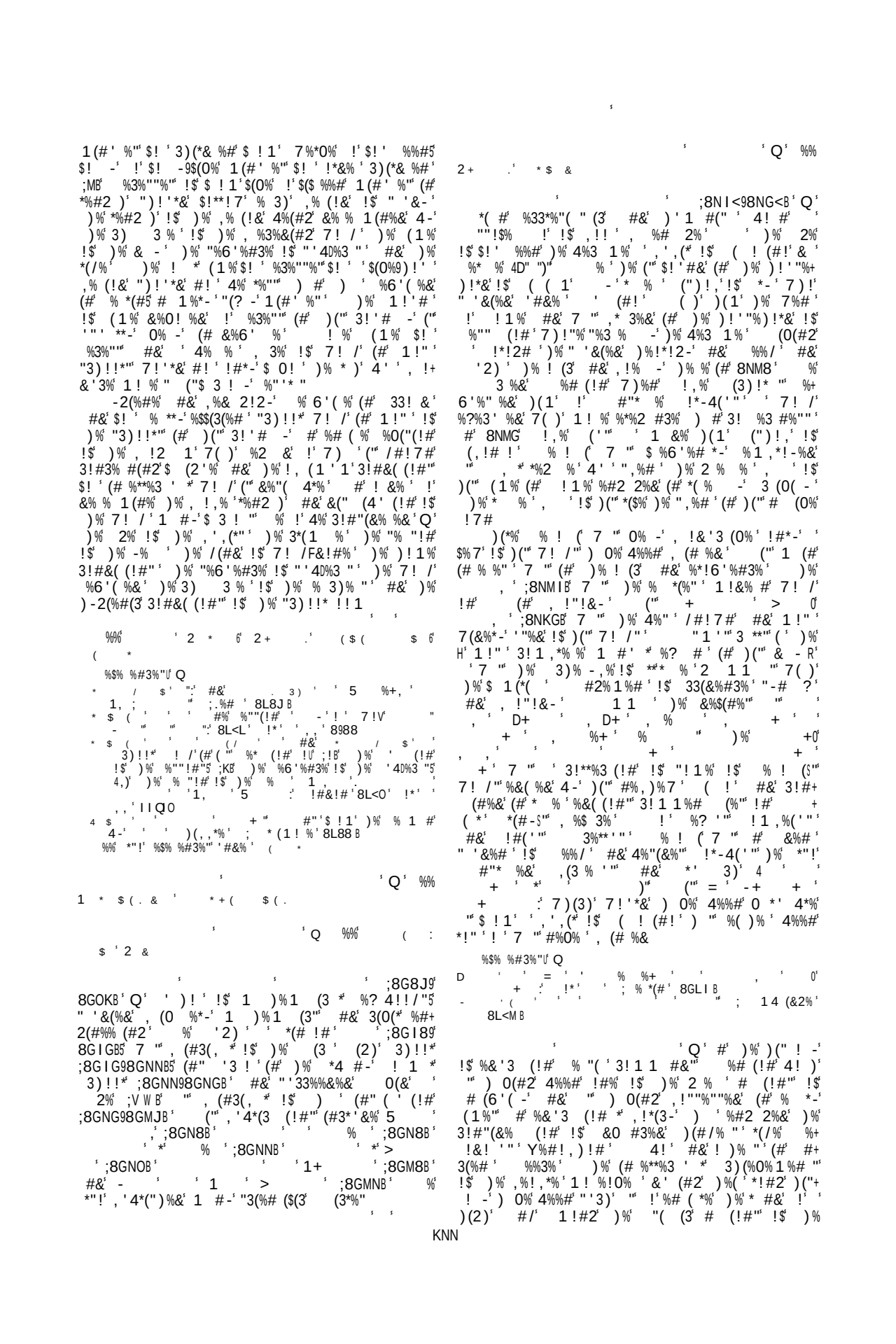

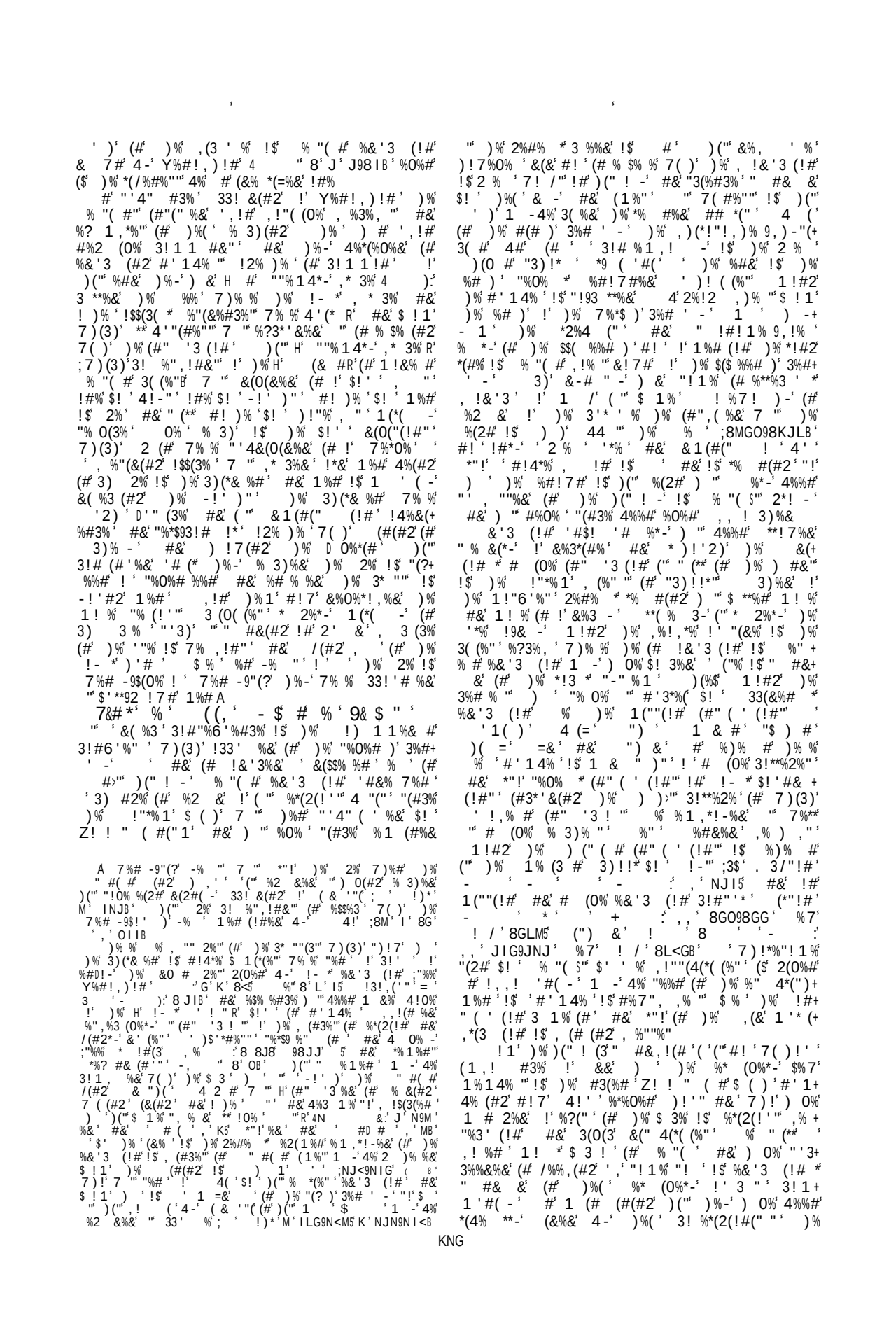

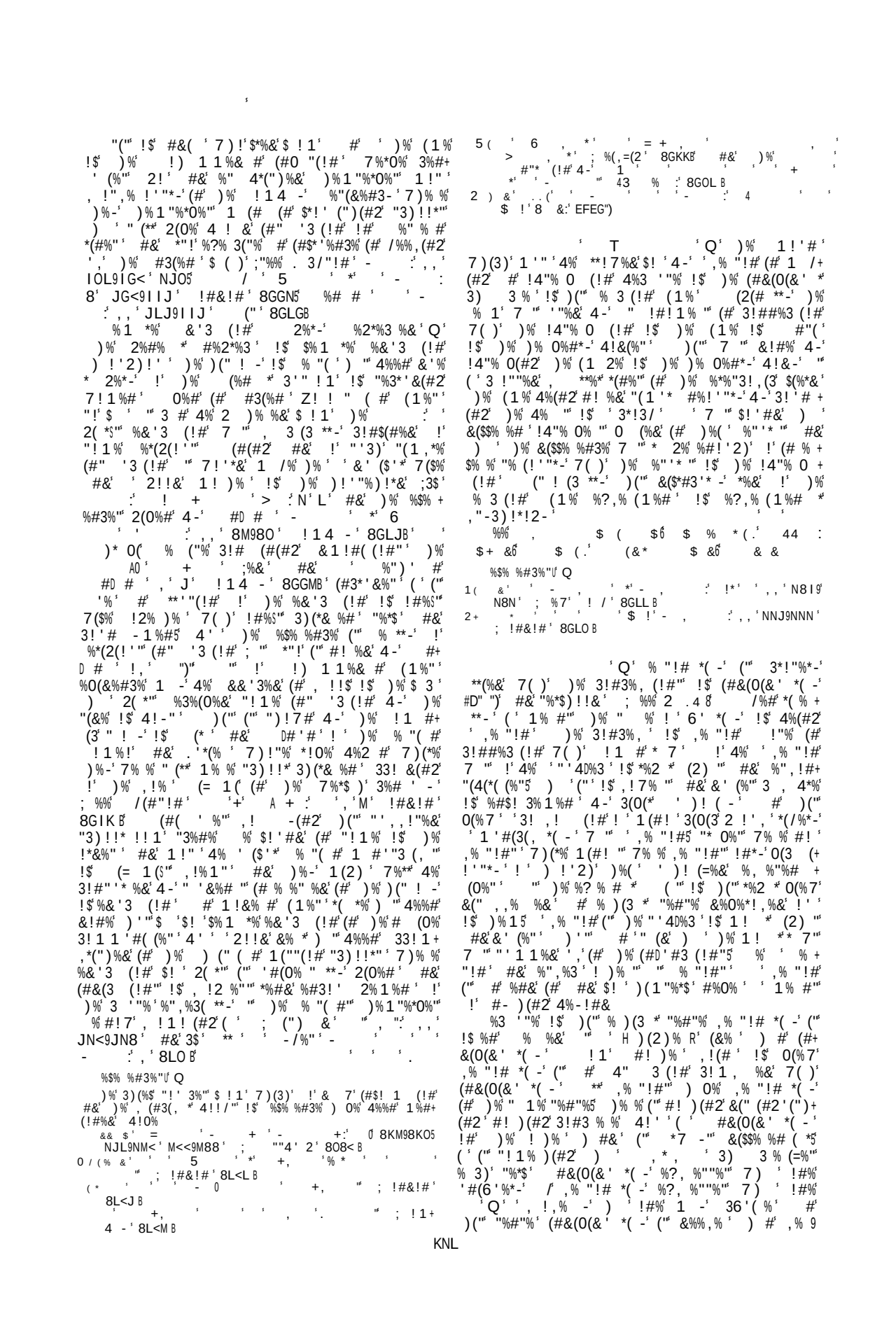

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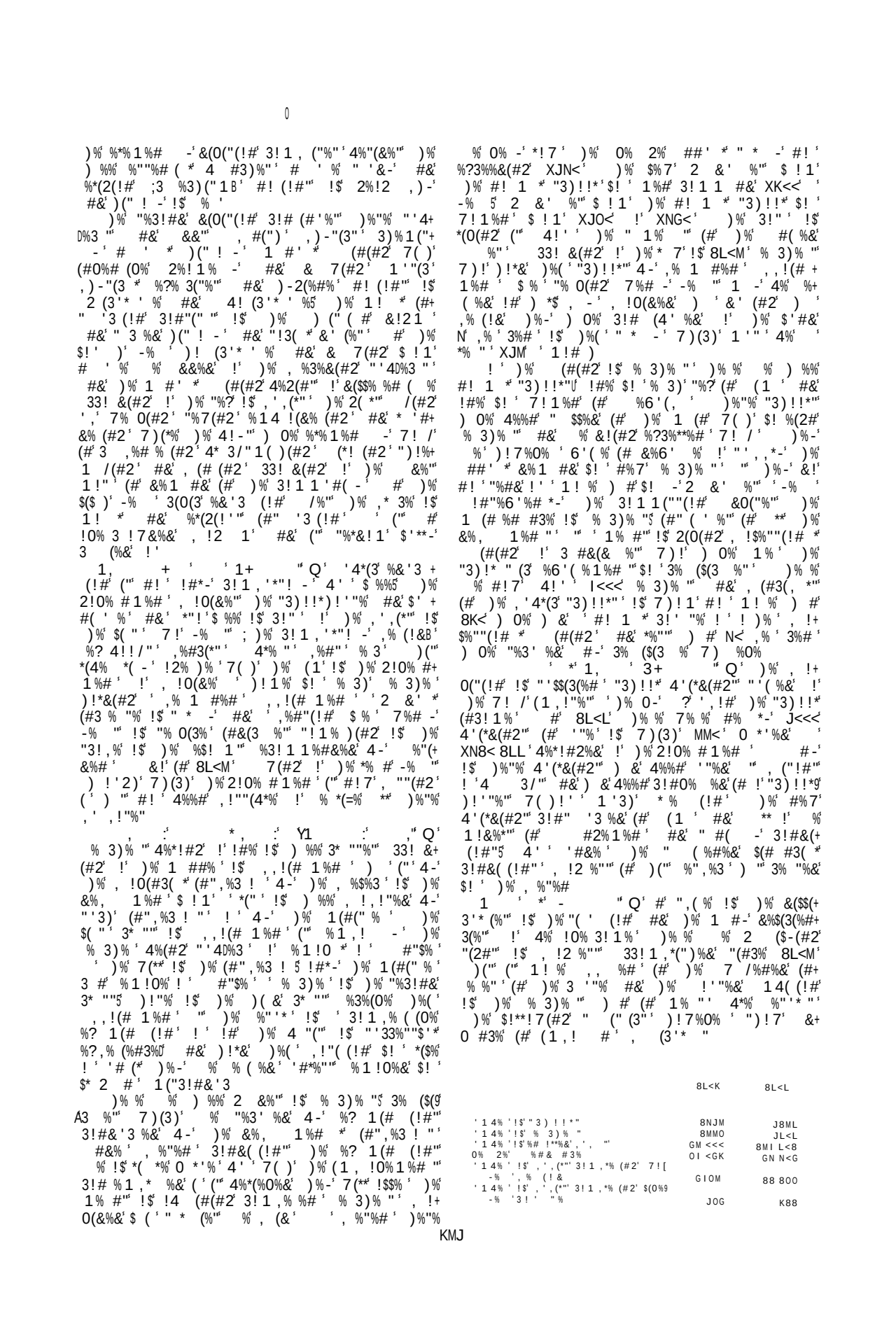

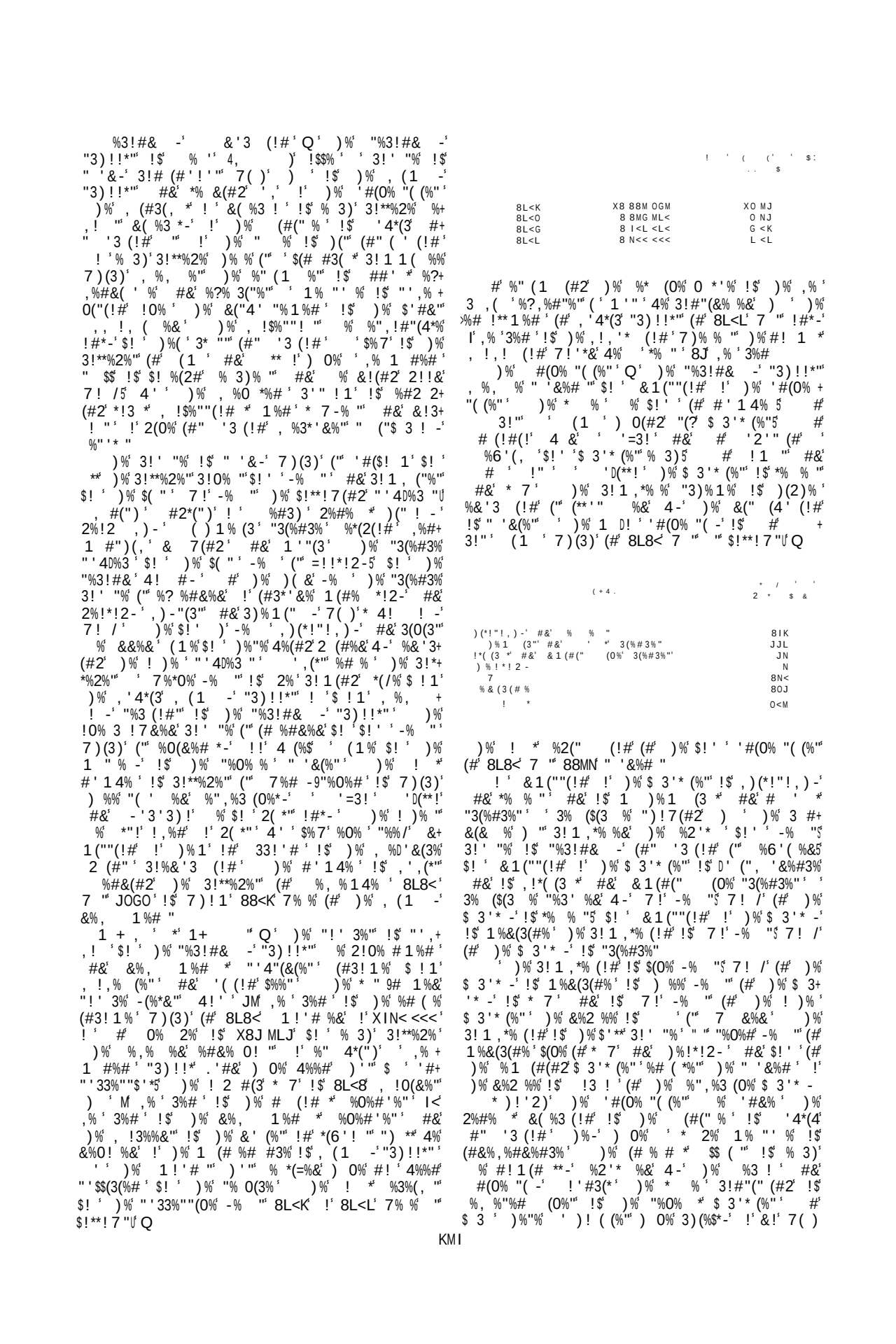

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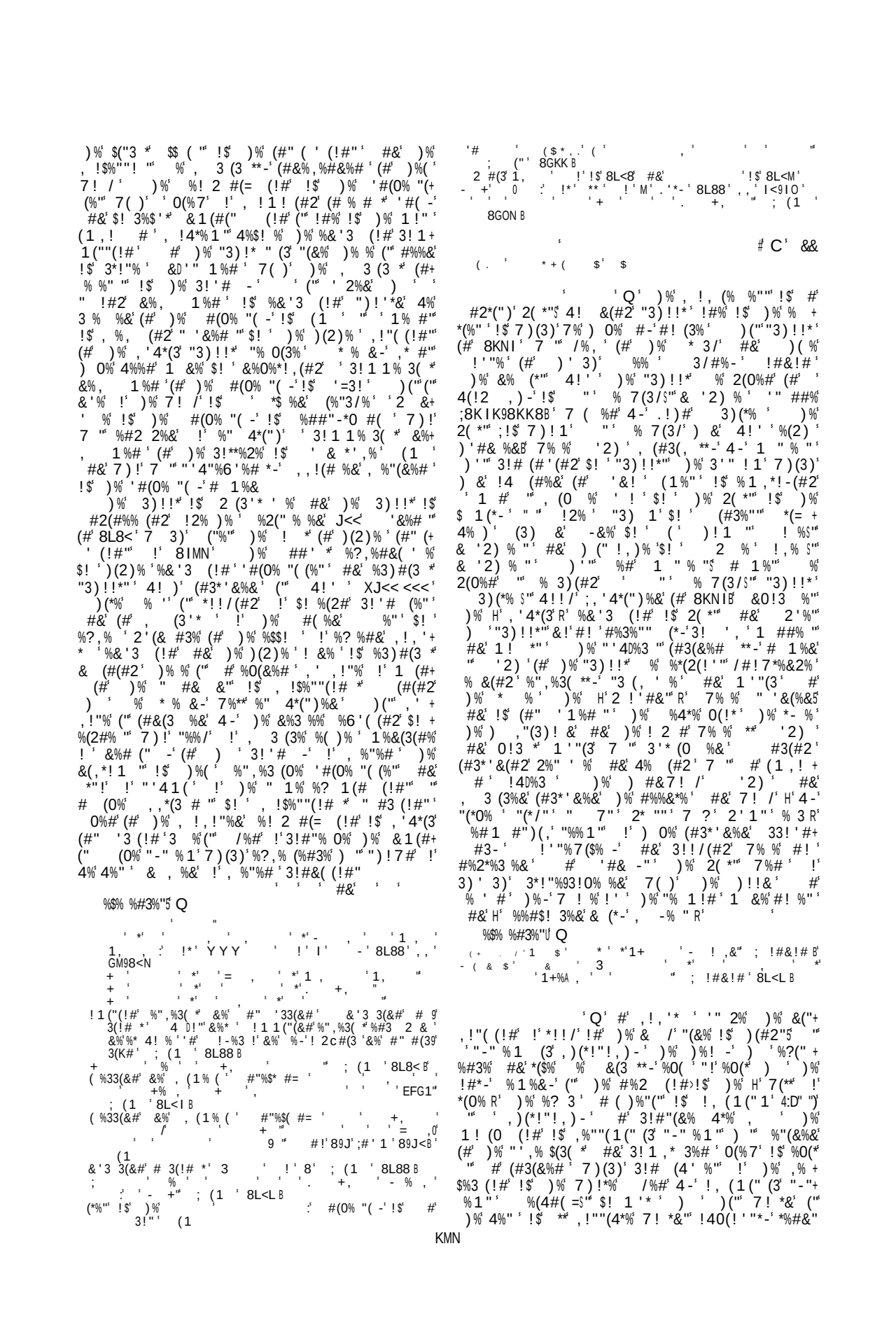

KMN

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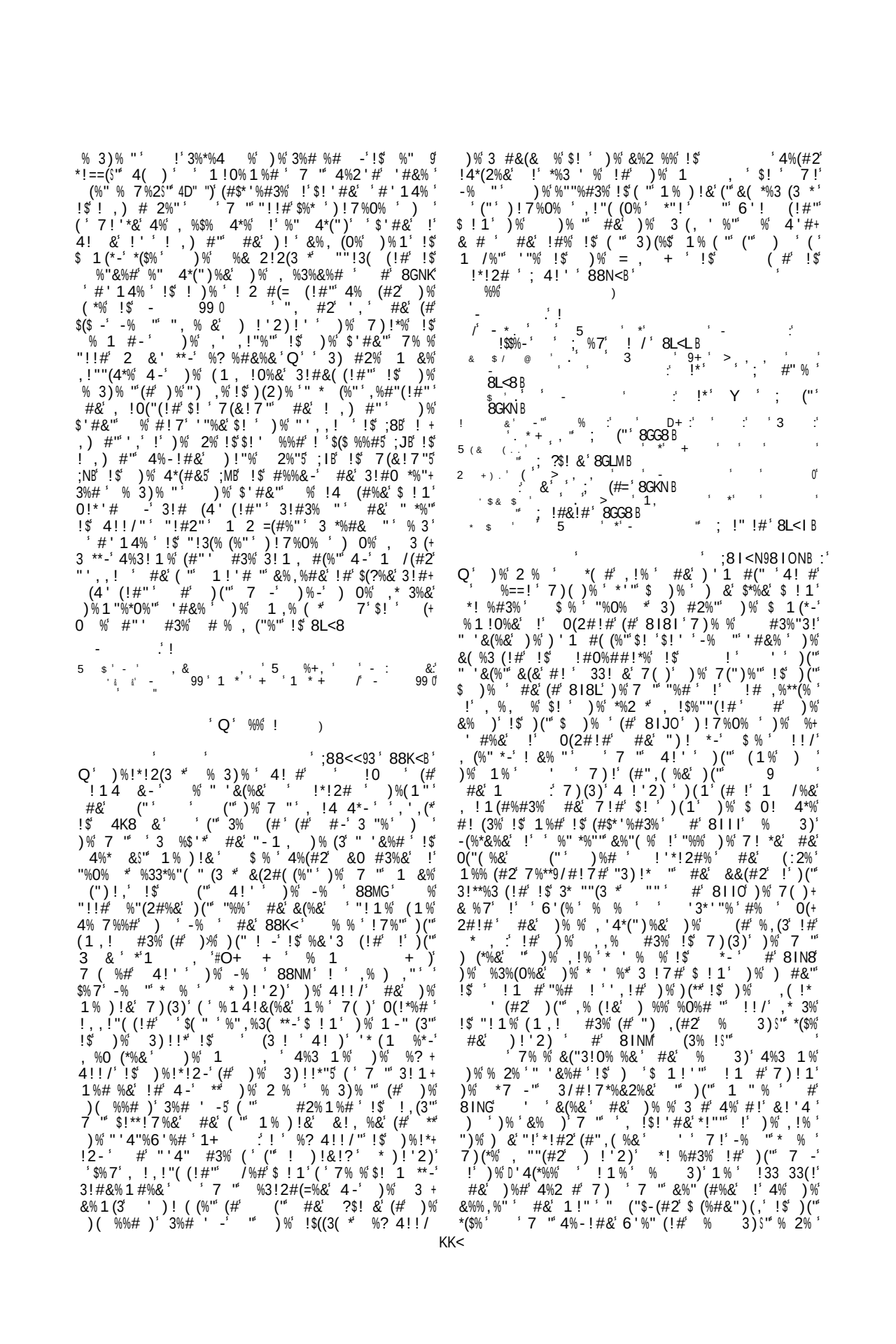

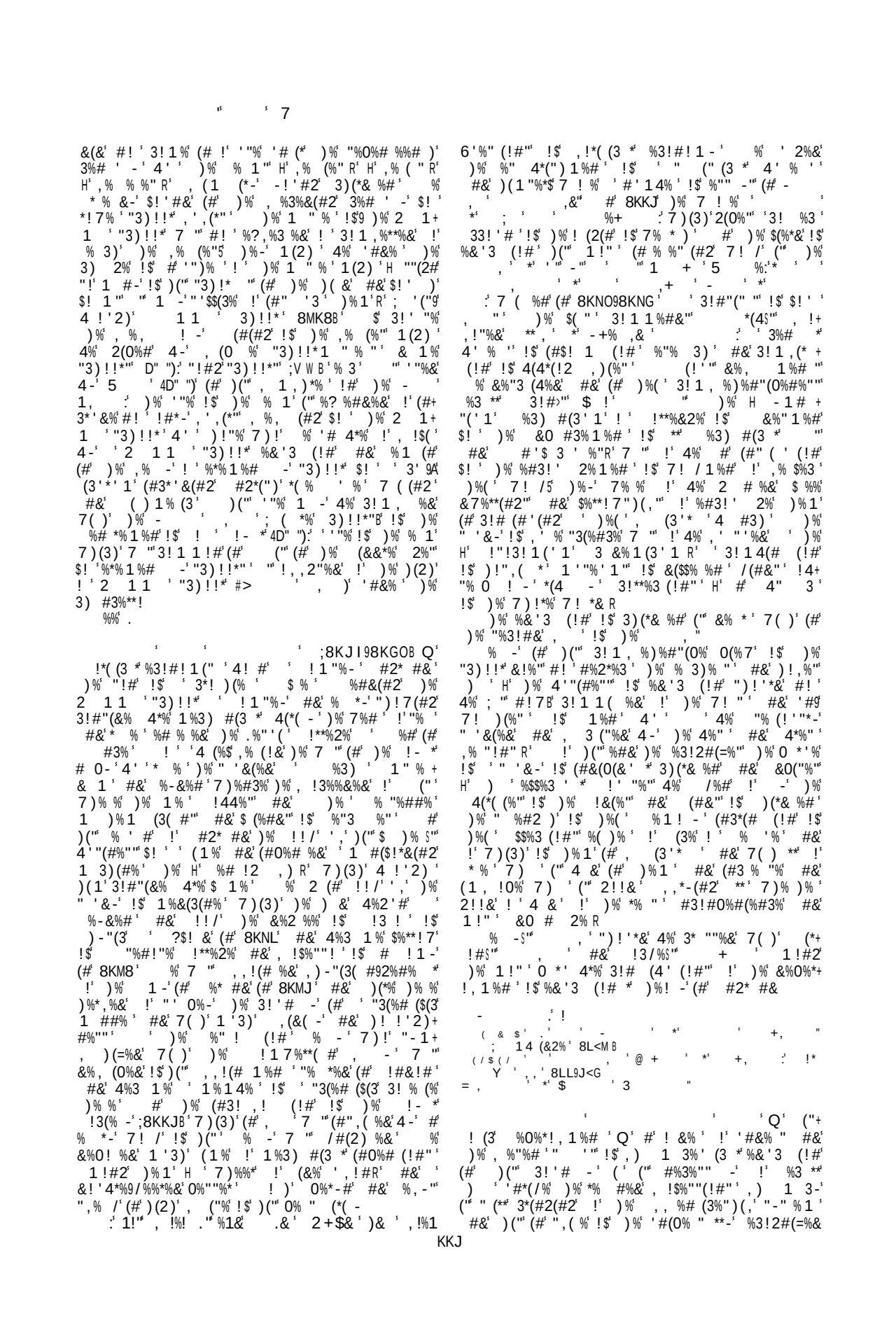

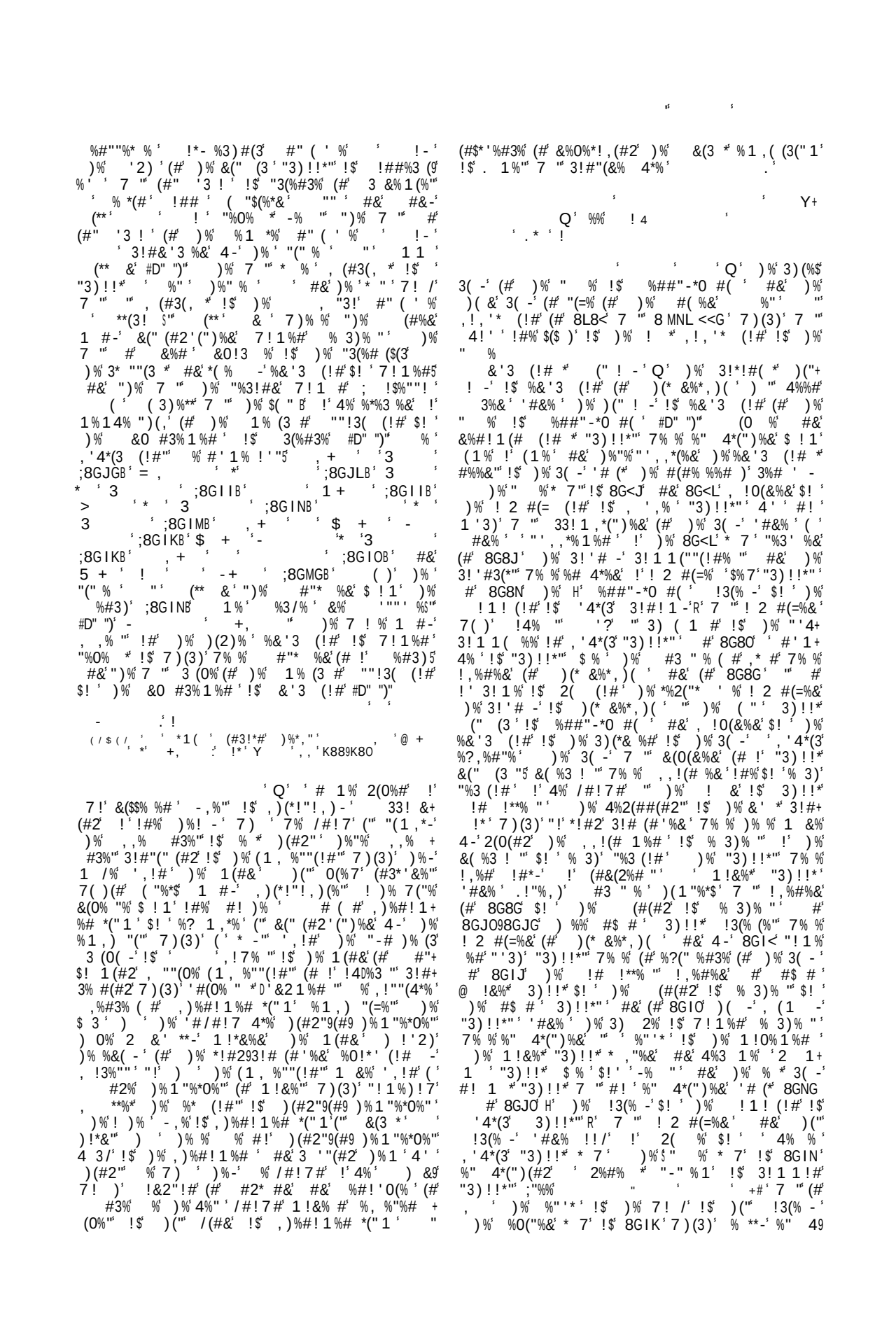

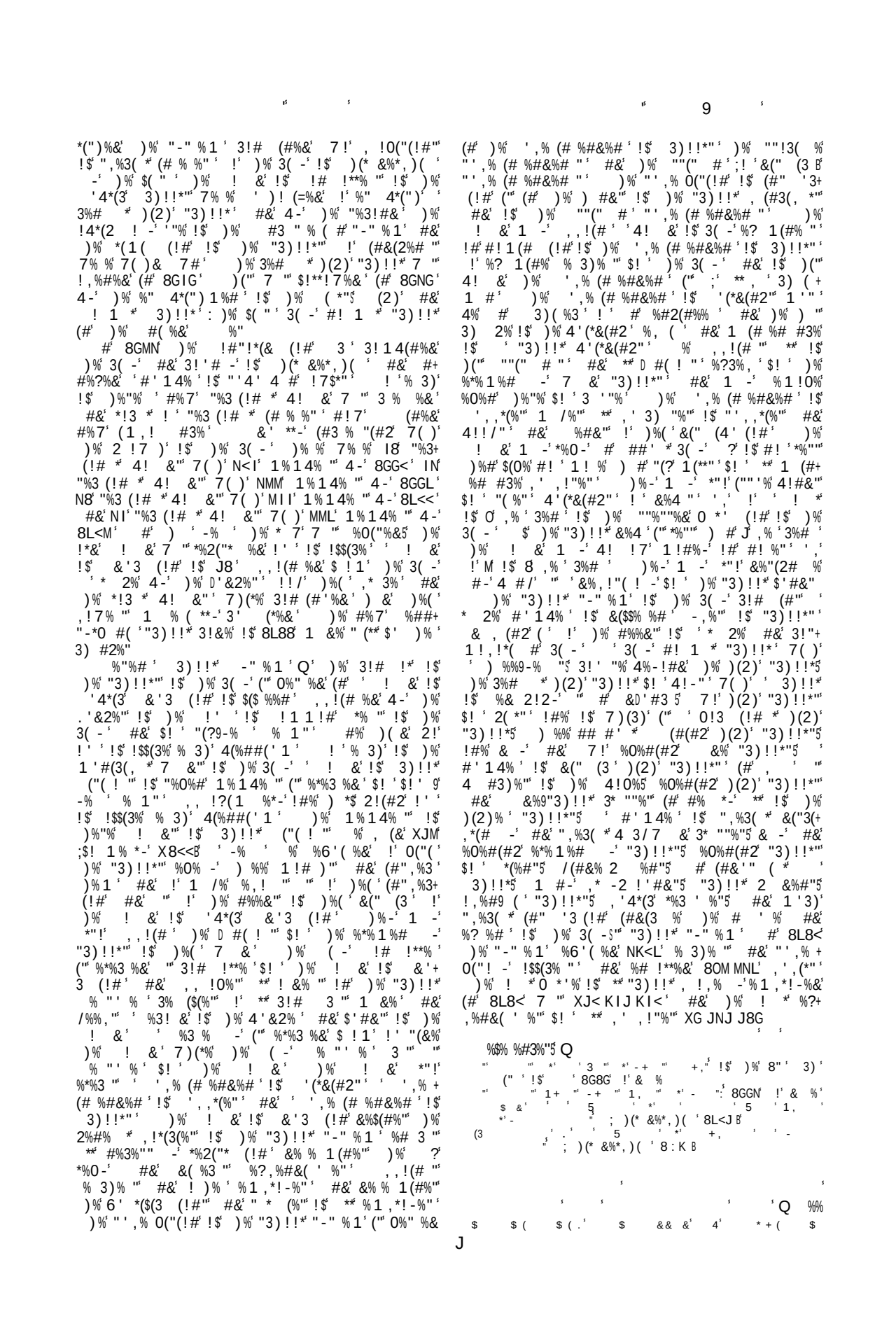

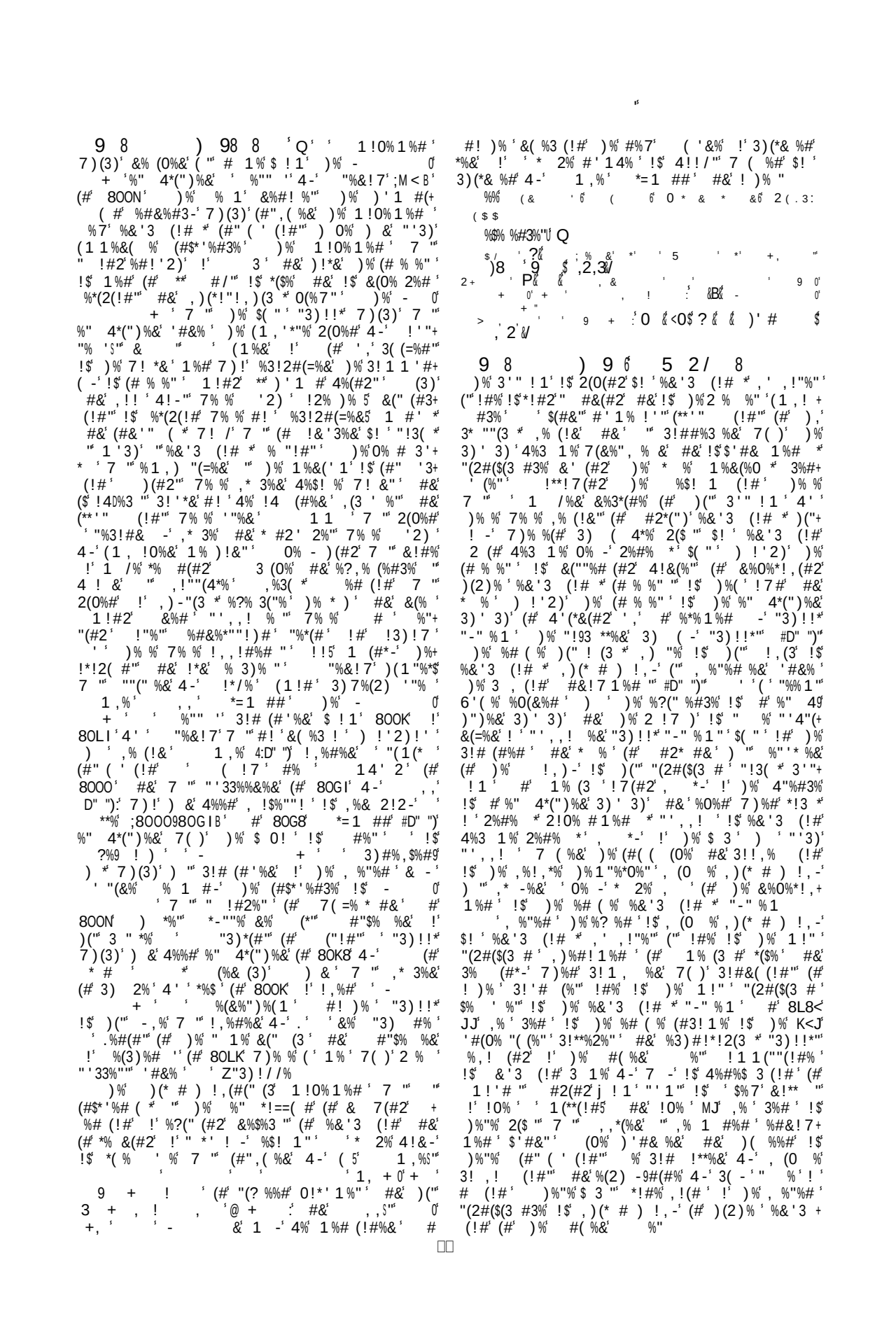

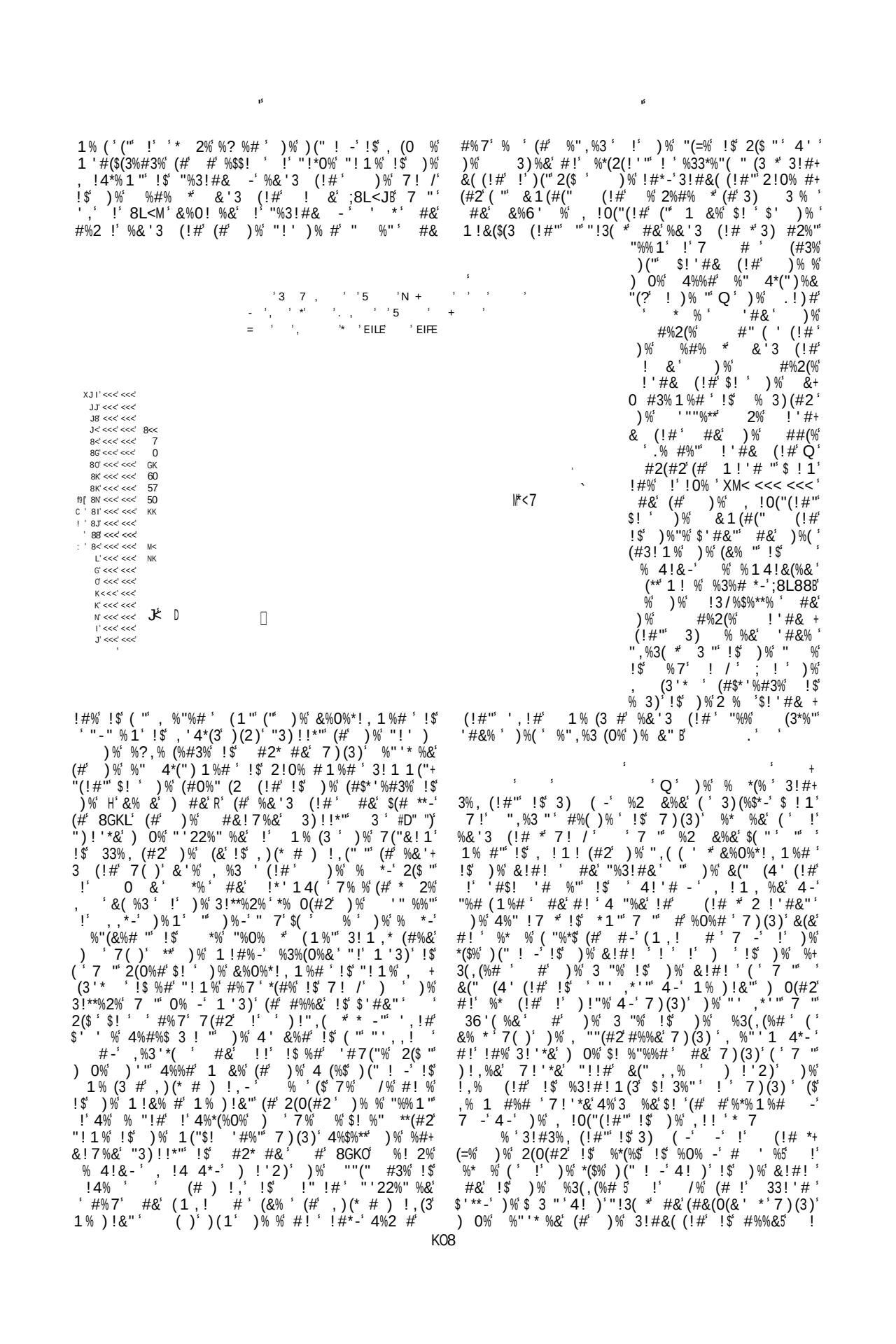

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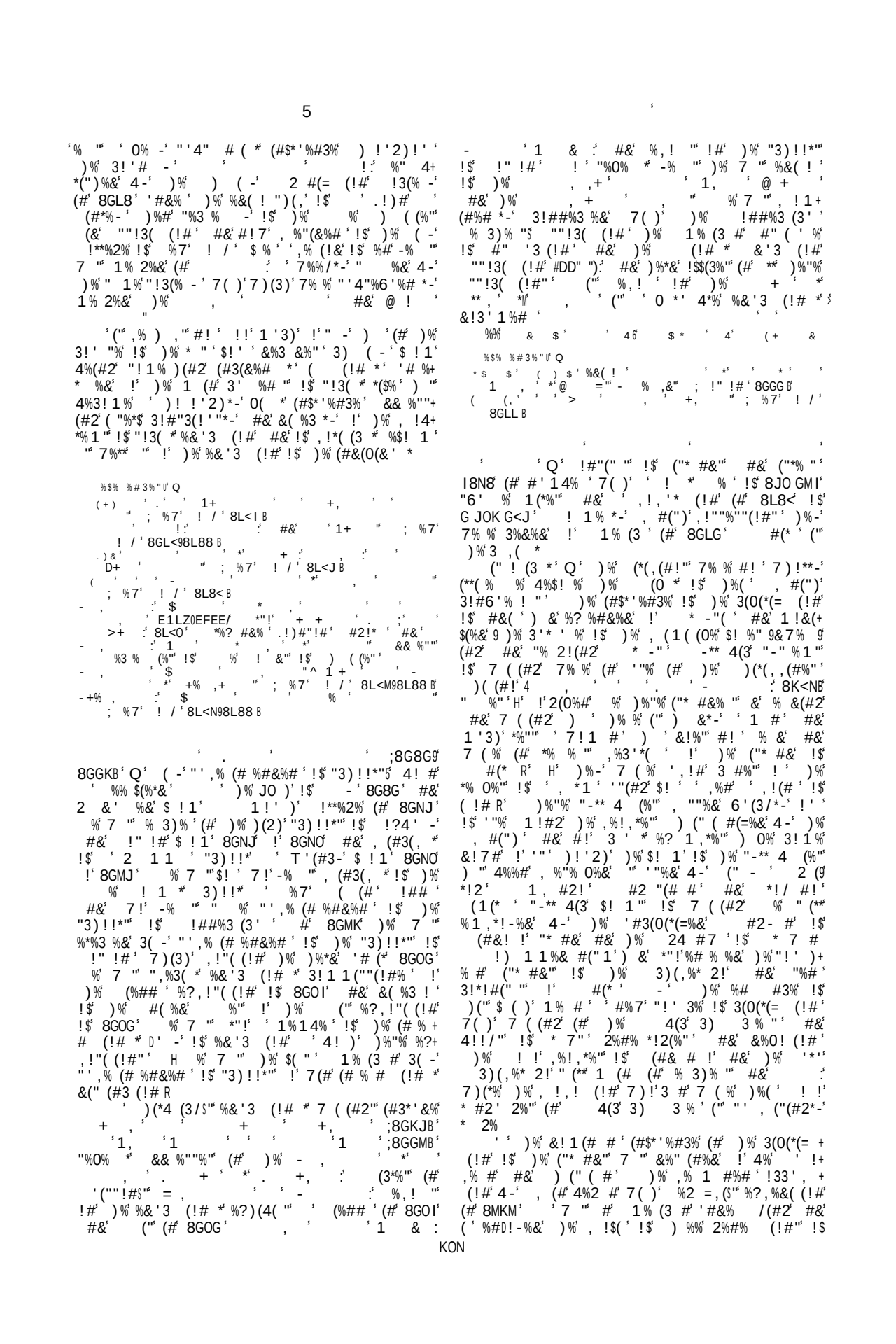


A Village School of the Old Type.

A Three-room Village School of Steel and Concrete. The New Type, Plan No. 3.

An American Supervisor with his Filipino Assistants.

Lace Making in the Primary Schools.

The Old Amusements: Cock Fighting.

Athletics under American Influence: Volley Ball.

Spanish colonization in America. The Spanish conscience had revolted against the cruelty of the West Indies; Las Casas was still living in the monastery of his order at Valladolid; and the experience of years with the American Indian was available to guide the conqueror in his efforts to subdue and civilize the Malay.

The conquest was achieved with surprising rapidity and with little conflict. The "Indians," in accordance with the system in vogue in America, were given in *encomiendas* to the Spanish soldiery. Their numbers at this time were few, probably not over 600,000 in the portions of the islands subdued. There were no large settlements and few powerful chieftains other than the sultans of Magindanao and Sulu.

The spiritual conversion of the Filipinos was for a time delayed. A few Augustinian friars went out with the first conquerors, but, after more than a decade, Governor Sande wrote that there were only thirteen friars who could say mass, and he was not sure that any understood the language of the natives. A year later arrived a company of Franciscans; two Jesuits, shortly followed by others, came with the first bishop in 1581; the Dominicans arrived in 1587, and in 1606 the Recollects or unshod Augustinians. As late as 1594 the report of a friar relates that there were no missionaries on the islands of Leyte, Negros, Bohol, Samar, Mindanao, Masbate, or many other smaller islands where the natives had been under tribute for nearly a generation, but in that year the king of Spain began to provide generously toward the sending out of missionaries, and there were soon 300 scattered among the islands, the number rising to approximately 500 in the succeeding century.

These missionary friars gathered the Indians into towns or *reducciónes*, built churches and parish houses or *conventos*, and organized the communities both civilly and religiously. By the middle of the eighteenth century they had the whole archipelago reduced to docility to Christian rite and practice, except the "Moro country," the mountain region of Northern Luzon, and the forested and mountainous interiors, inhabited by wild people.

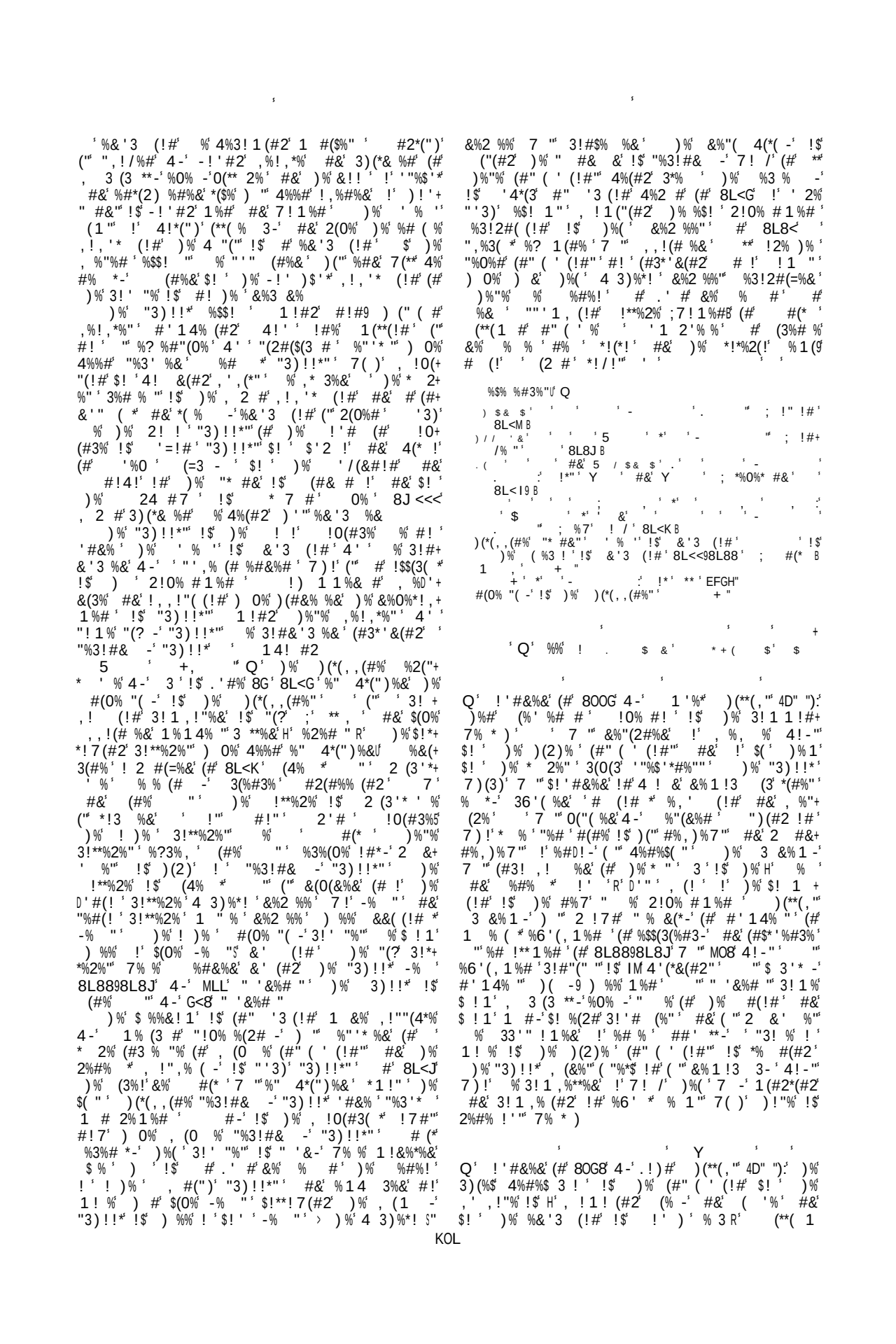
Some attention was early given to educating the natives. The missionaries learned the divers Malayan languages spoken in the Philippines, reduced them to written form, introduced the Roman alphabet, and early established printing offices where were published catechisms, books of doctrine and devotion, and grammars and vocabularies of the native tongues. In each *convento* it was usual to conduct a native school in the dialect, taught by the sacristan or some humble dependent of the church, where boys and girls of the town were prepared for communion and perhaps learned to write their native tongues. The teaching of Spanish was not attempted until late in the Spanish régime and was opposed and condemned by the friars as likely to loosen the authority of Church and government.

Musical instruments were introduced for purposes of worship and recreation, and the astonishing aptitude of the Filipino in musical directions has made common in every village pianos, harps, violins, and the *bandúrria*. Organs are played in every church, and it is a poor town that has not a native orchestra and band.

The motives which led the Spaniards to establish secondary and high schools in the Philippines were the education of their own sons and training for the priesthood. The pioneer institution was the Colégio de San José, a college and seminary established by order of the king of Spain, opened in 1601. In 1610 it secured a bequest from the *encomiendero* of Mindanao and from this endowment supported and educated from twenty to forty students (*becas*) for many decades. In 1644 it obtained by papal brief the right to grant degrees. A royal decree of 1722 recites that "the greater part of those who to-day obtain their prebends have been reared and prosecuted their studies in San José." In 1768 on the expulsion of the Jesuits it was confiscated, then erected into a school of medicine and pharmacy. Its possession became a subject of controversy that lasted to the close of Spanish authority and was revived under the American government.

In 1619 the Dominican order founded the College of Santo Tomas, which in 1645 by papal bull was made a university. A letter of the king in 1644 stated the desire to see it possess the same qualifications as the universities of Ávila, Pamplona, Lima, and Mexico. At this period it taught grammar, rhetoric, logic, philosophy, and scholastic and moral philosophy, had about thirty secular students, and bestowed the bachelor, licenciate, master, and doctor degrees. By decree of 1785 it received the title of "Real" and became known as the "Royal and Pontifical University of Saint Thomas Aquinas." The teaching of civil and canon law was added in the eighteenth century, and in 1875 courses in medicine and pharmacy. The "Moret Decree" in 1870 attempted to secularize this institution and bring it under government control as the "University of the Philippines," but the opposition of the Church prevented the enforcement of the decree. Since the American occupation it has reorganized and amplified its courses and is attended by large numbers of Filipino students, especially those seeking a training in law.

A number of other secondary schools, including *beaterios* for orphan girls, existed from an early date. The Colégio de San Juan de Letran, established about 1640 as a school for orphan boys, developed into a secondary school and, in charge of the Dominicans, be-



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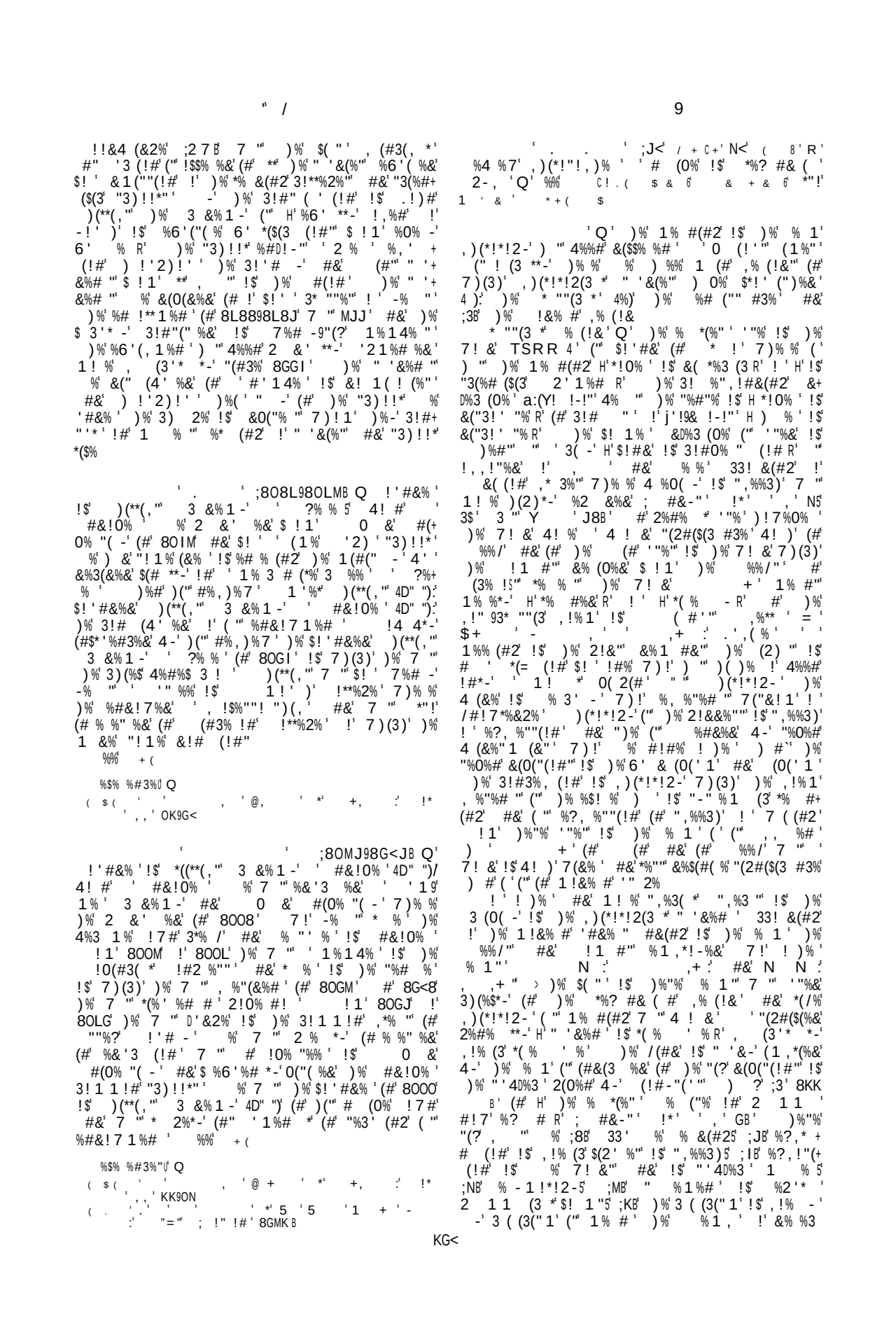

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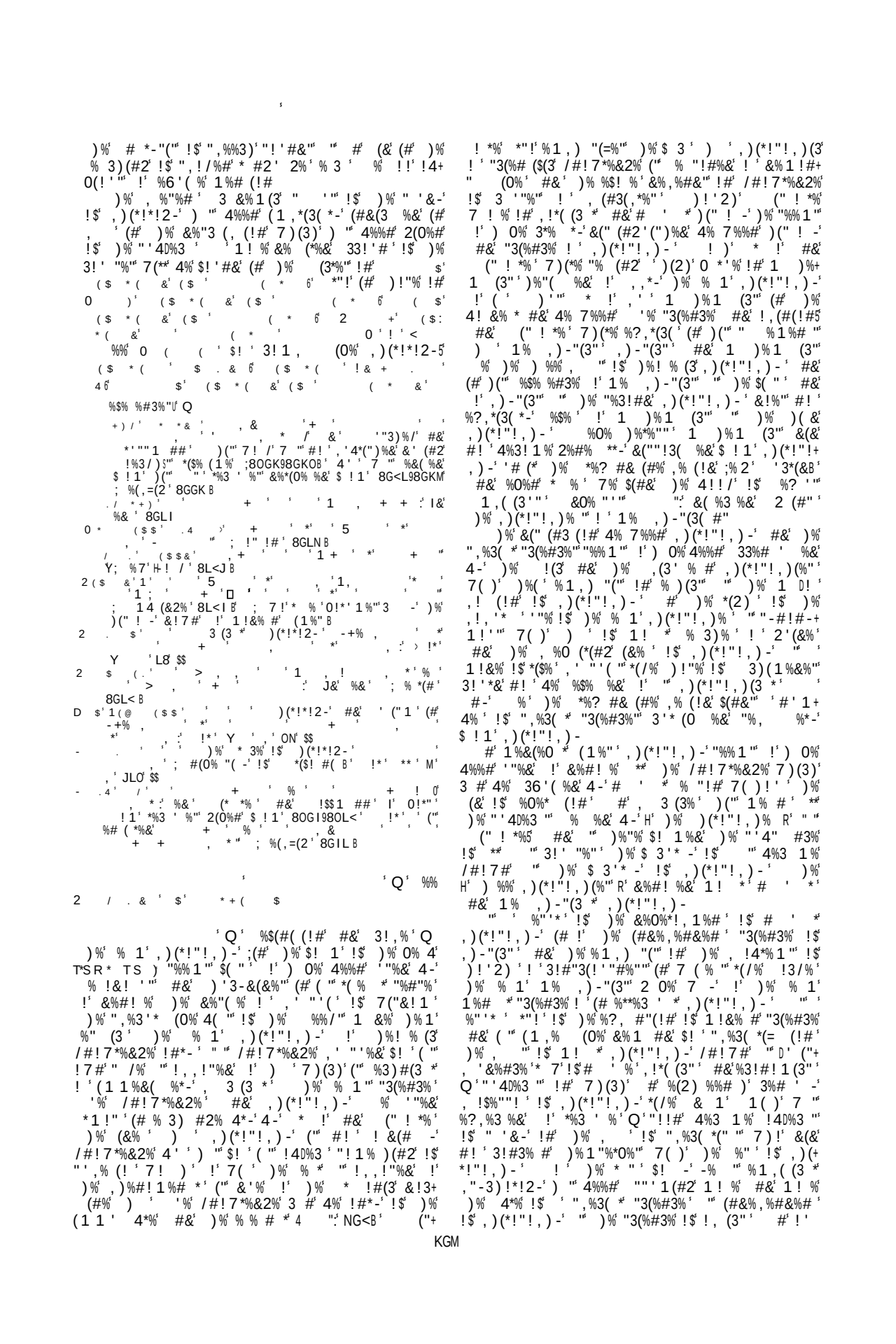

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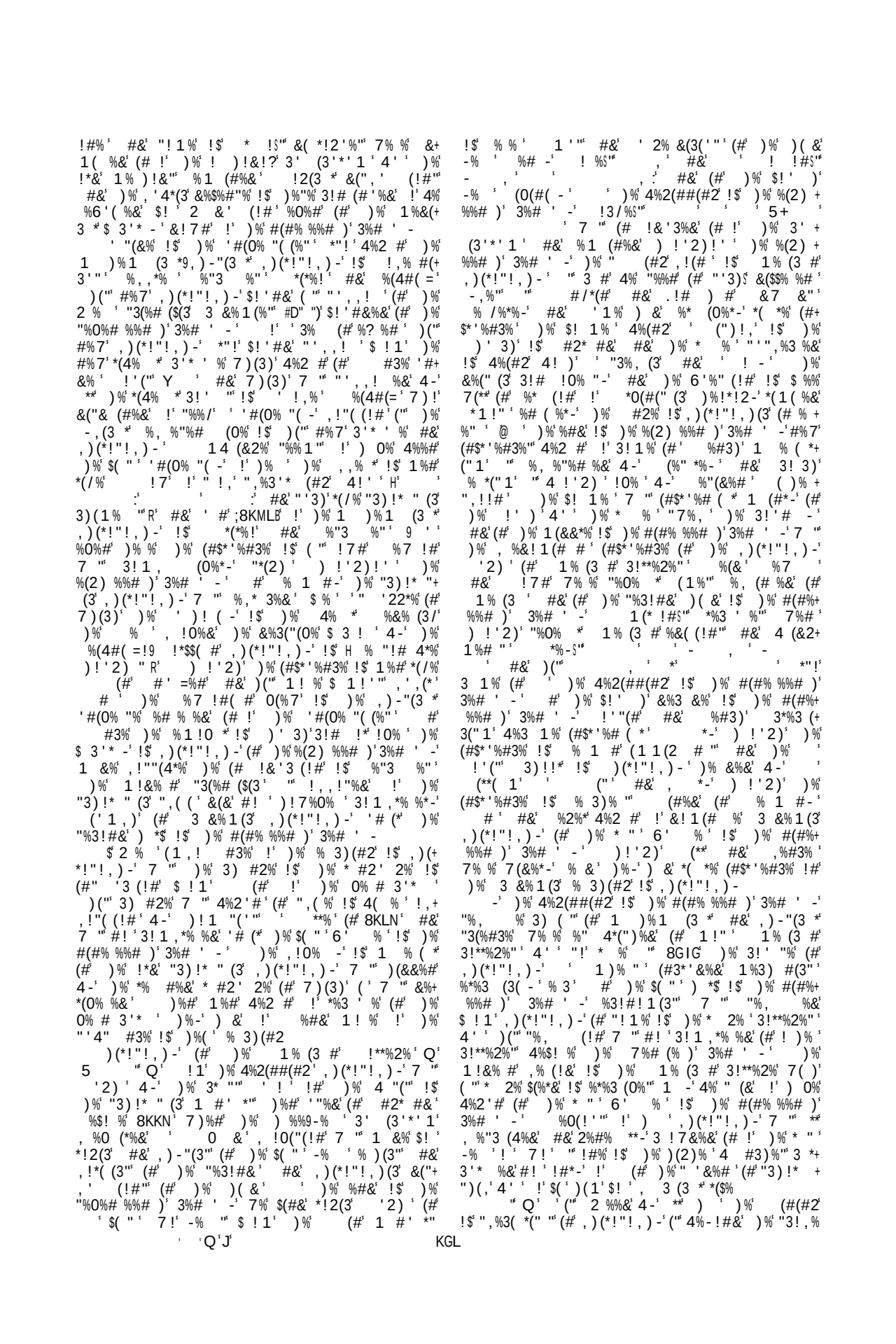

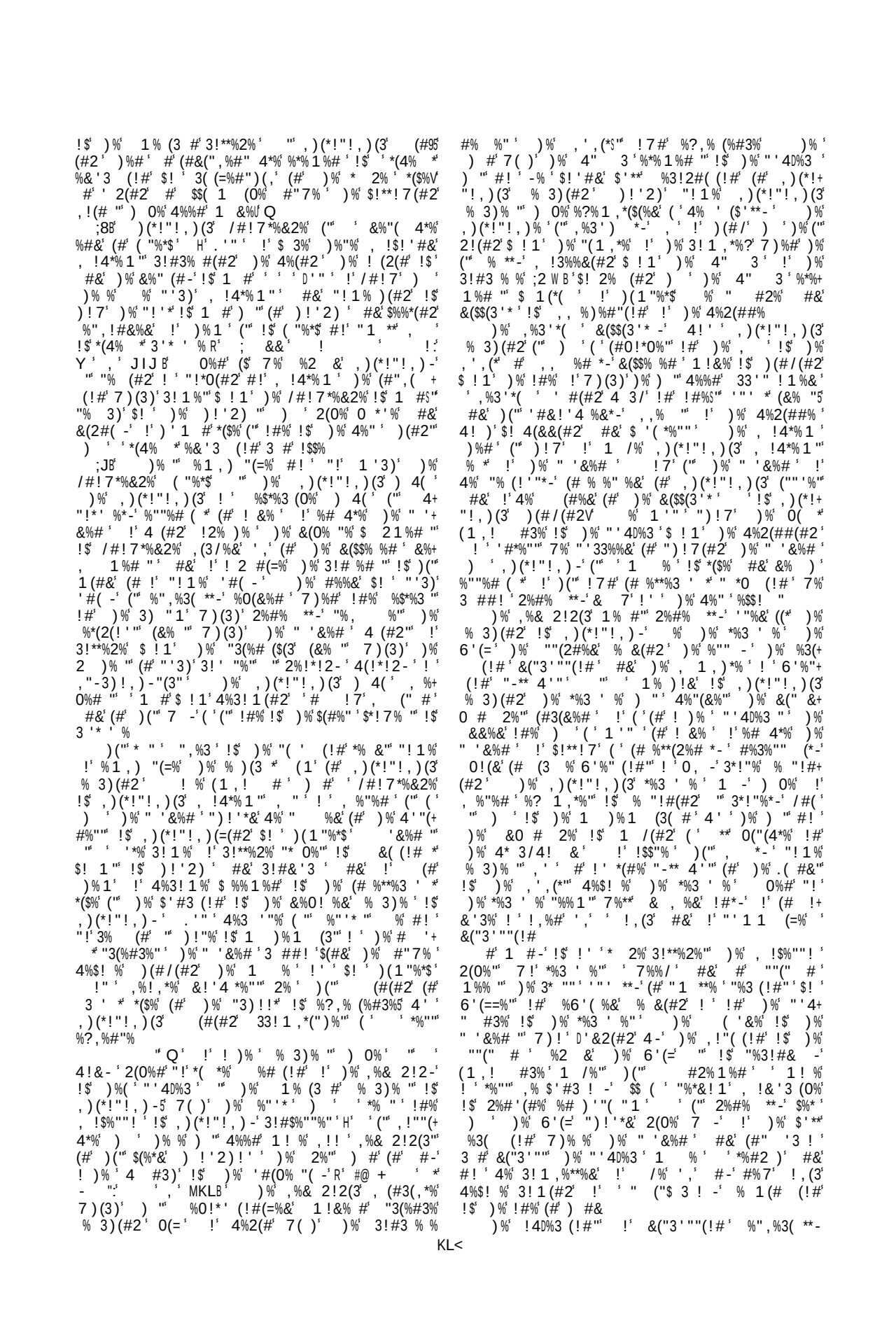

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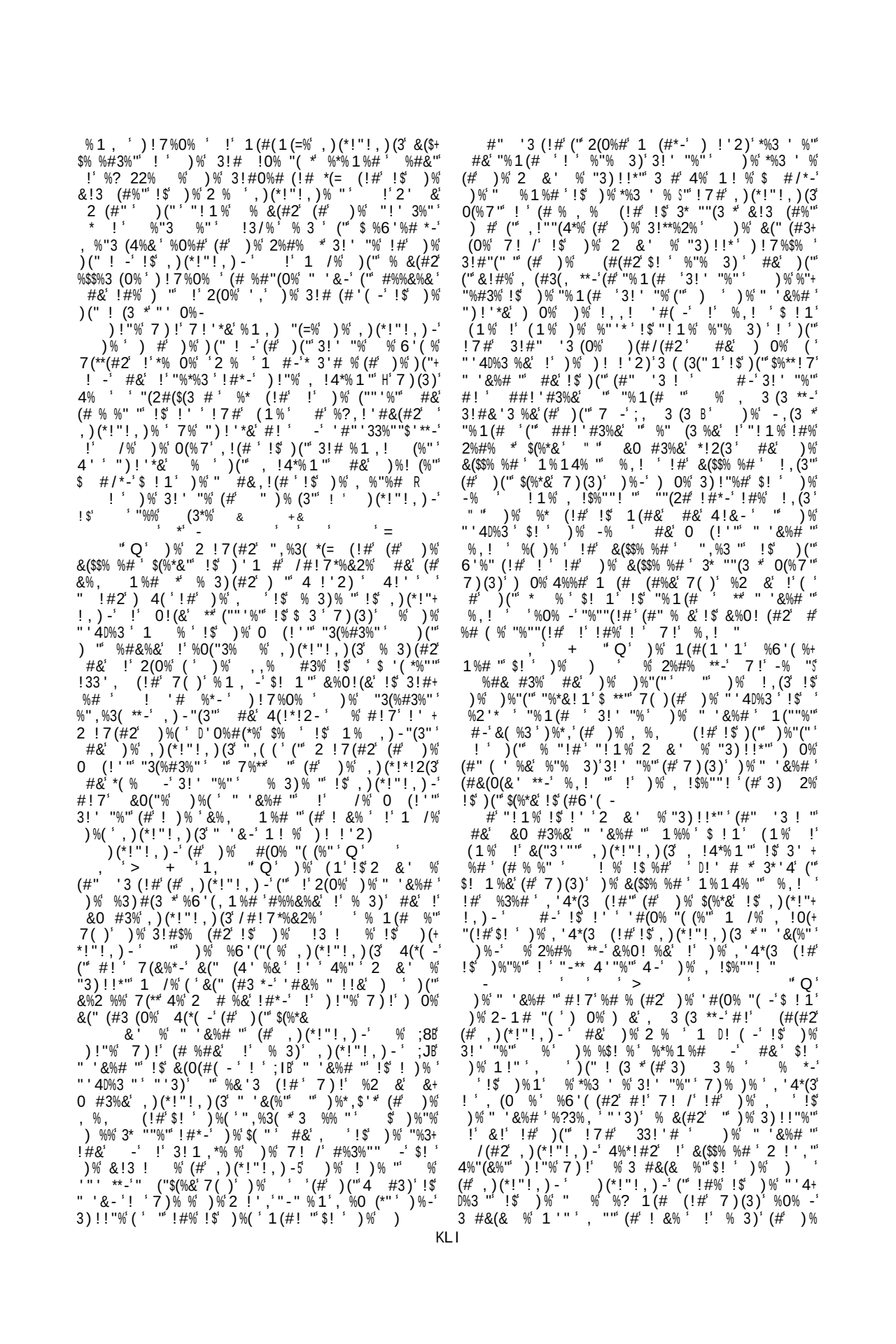

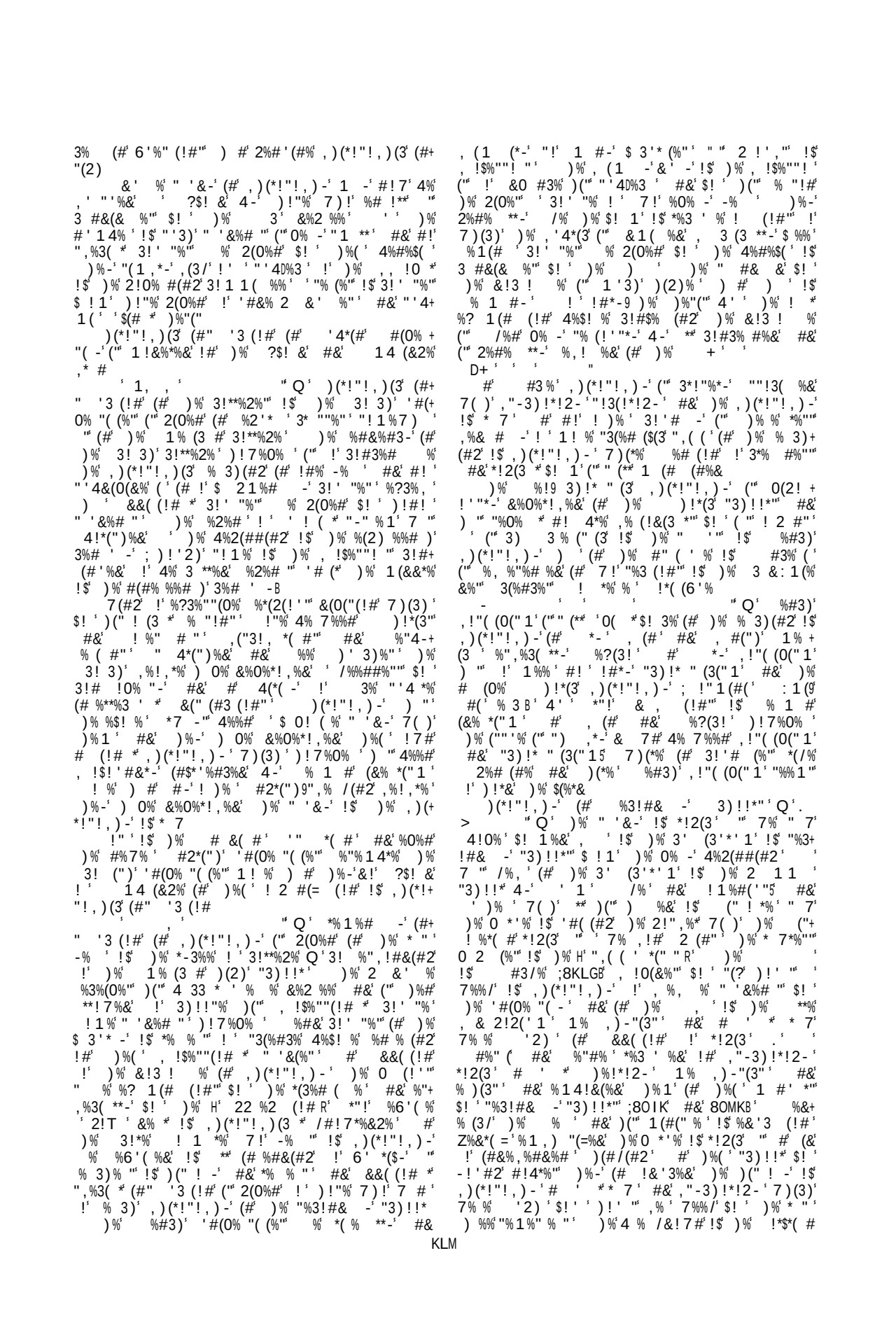

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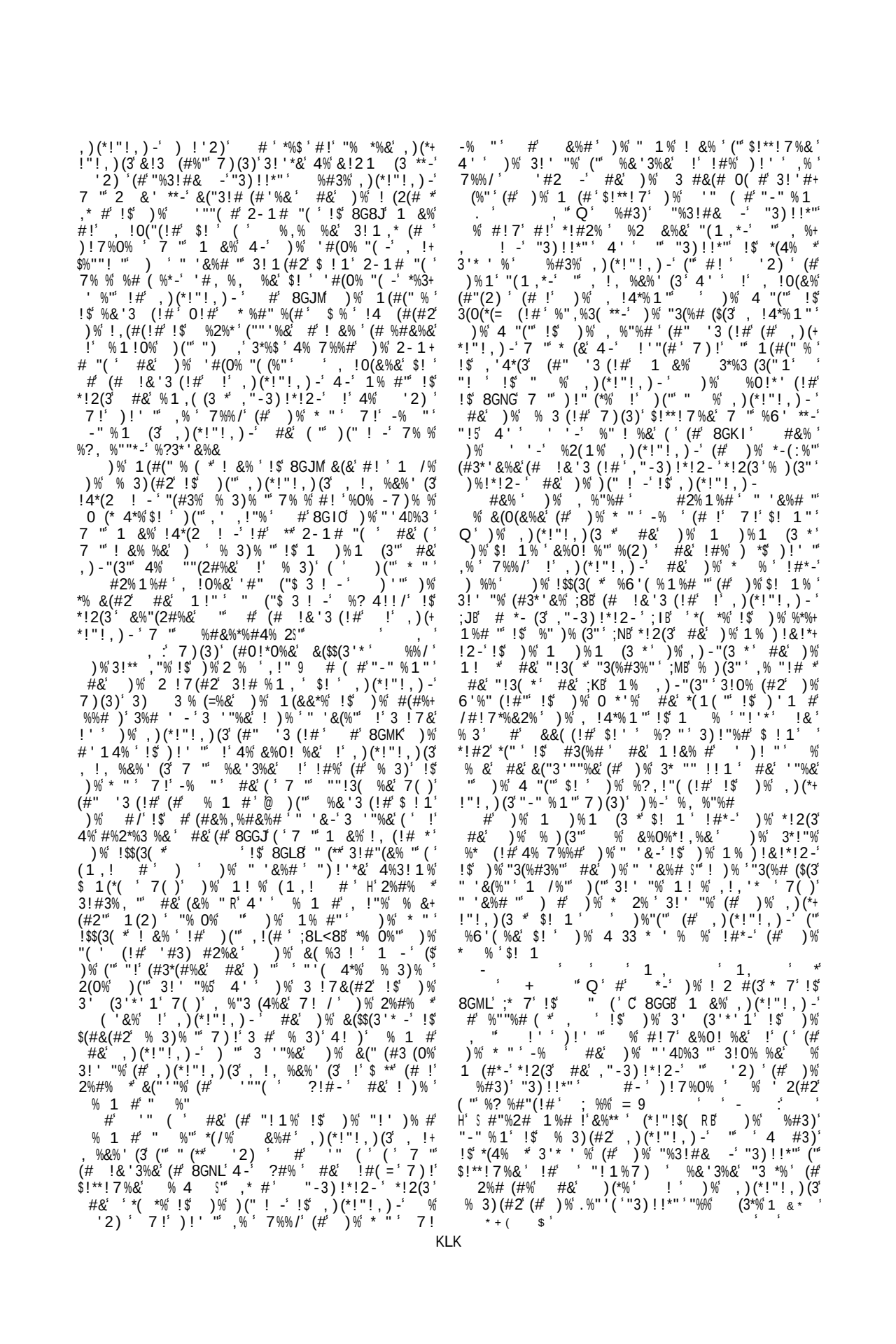
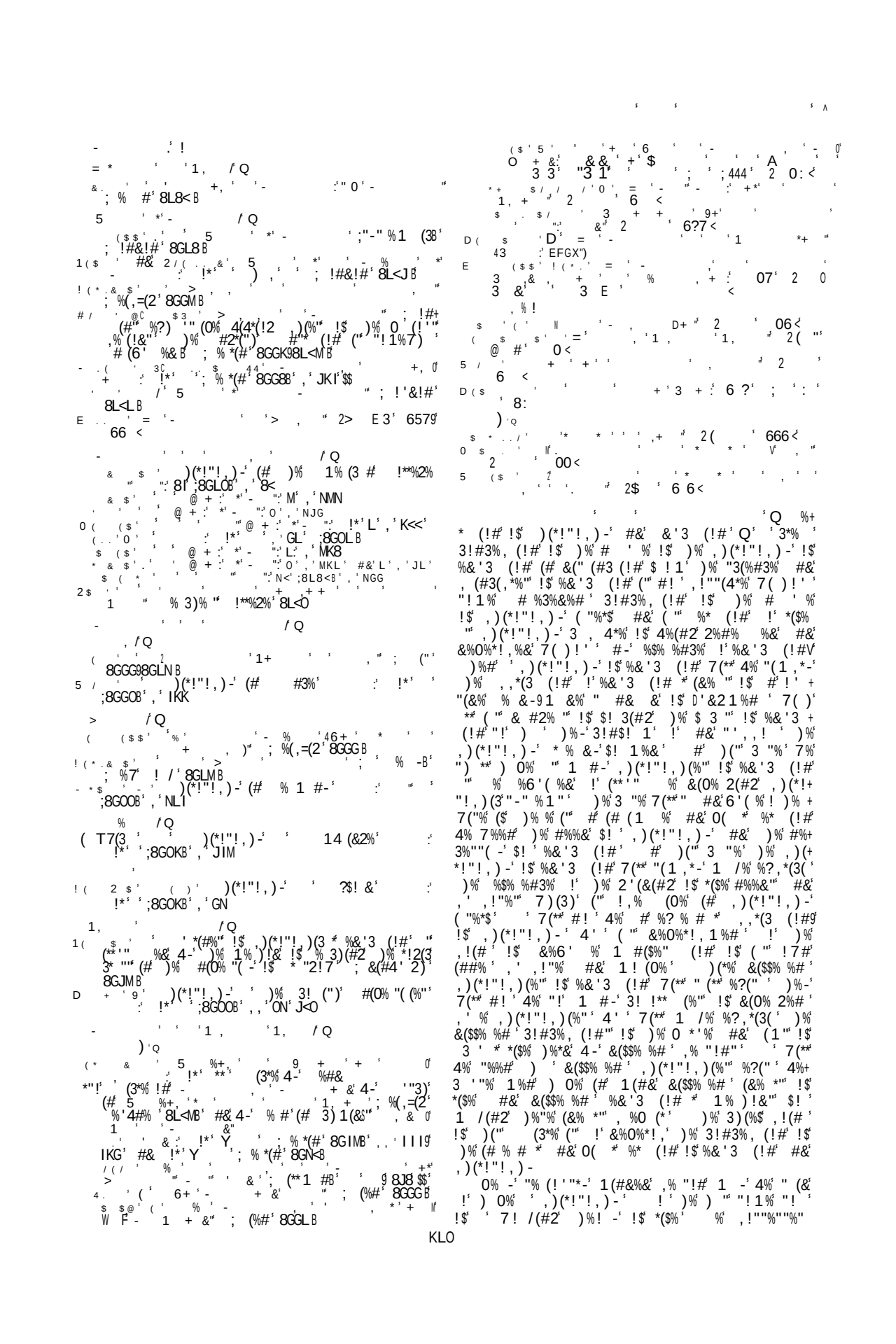


KLK



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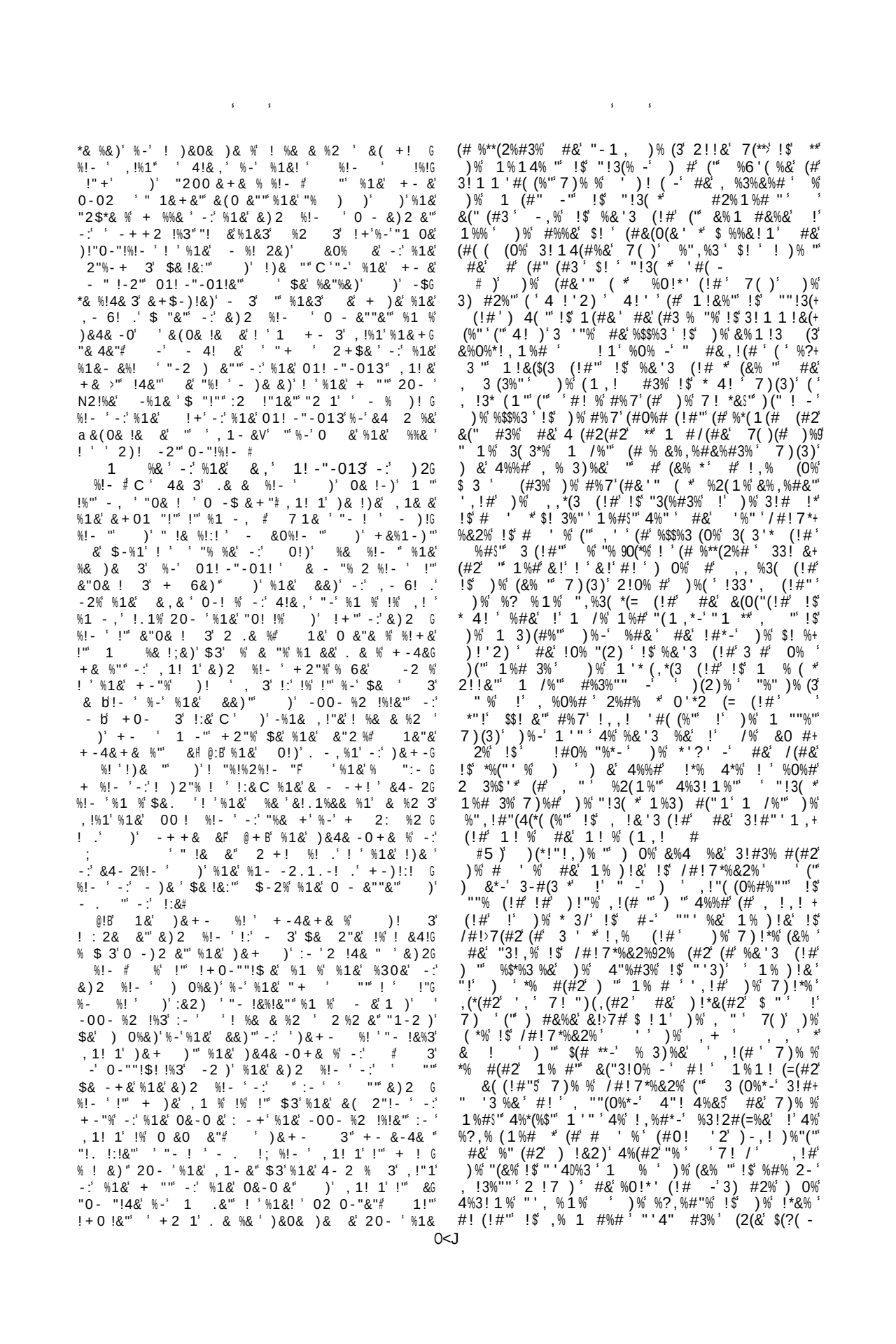

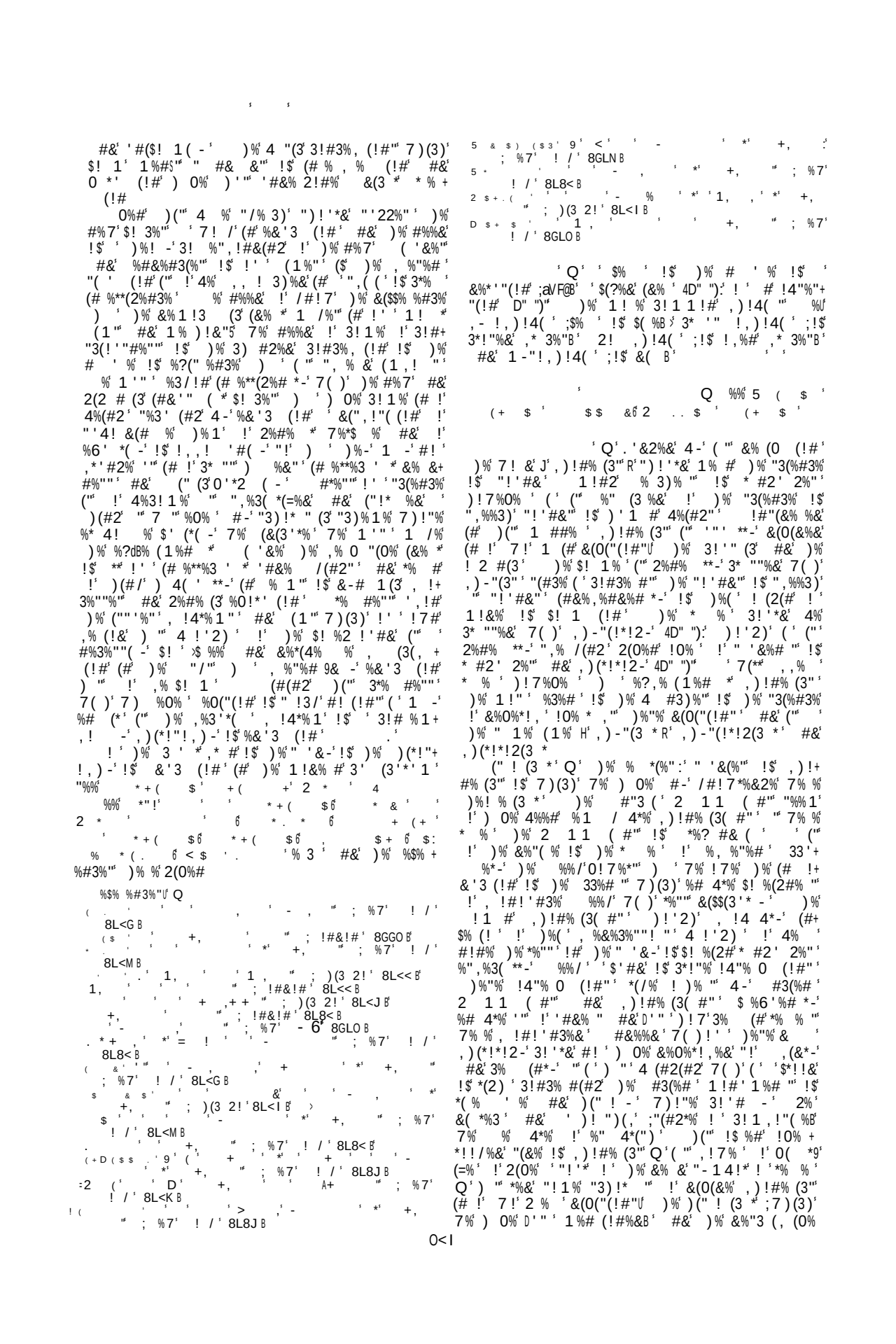

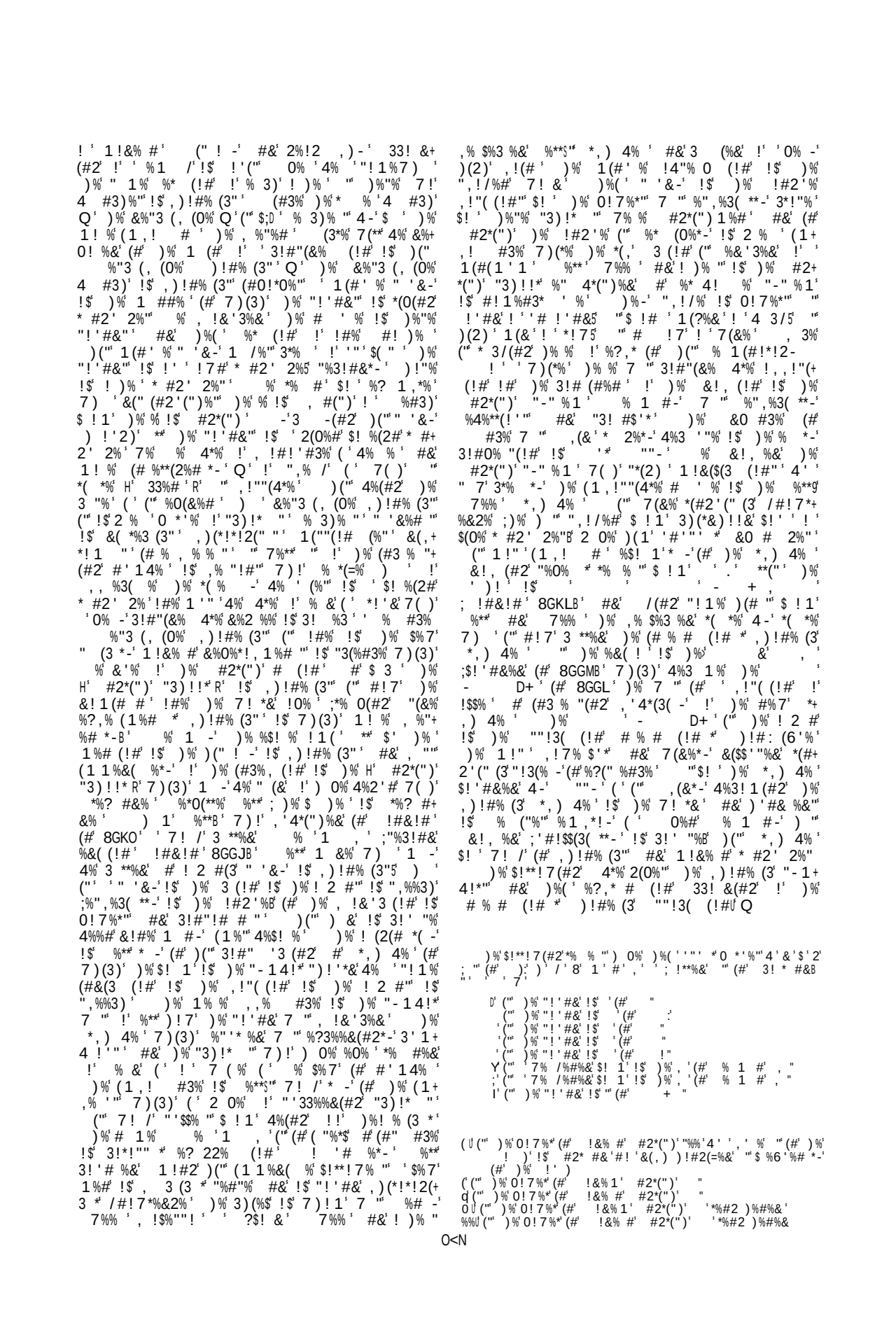

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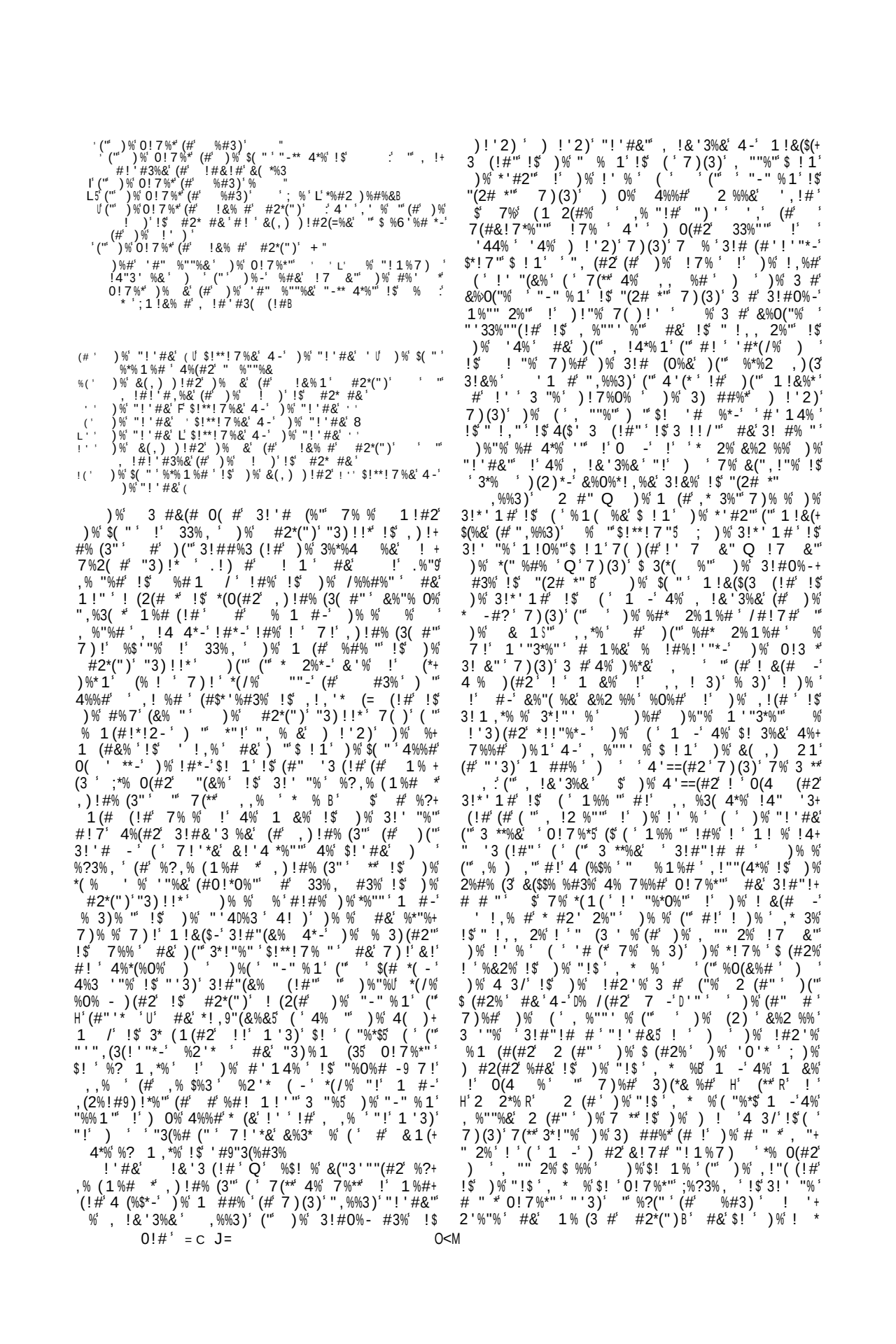

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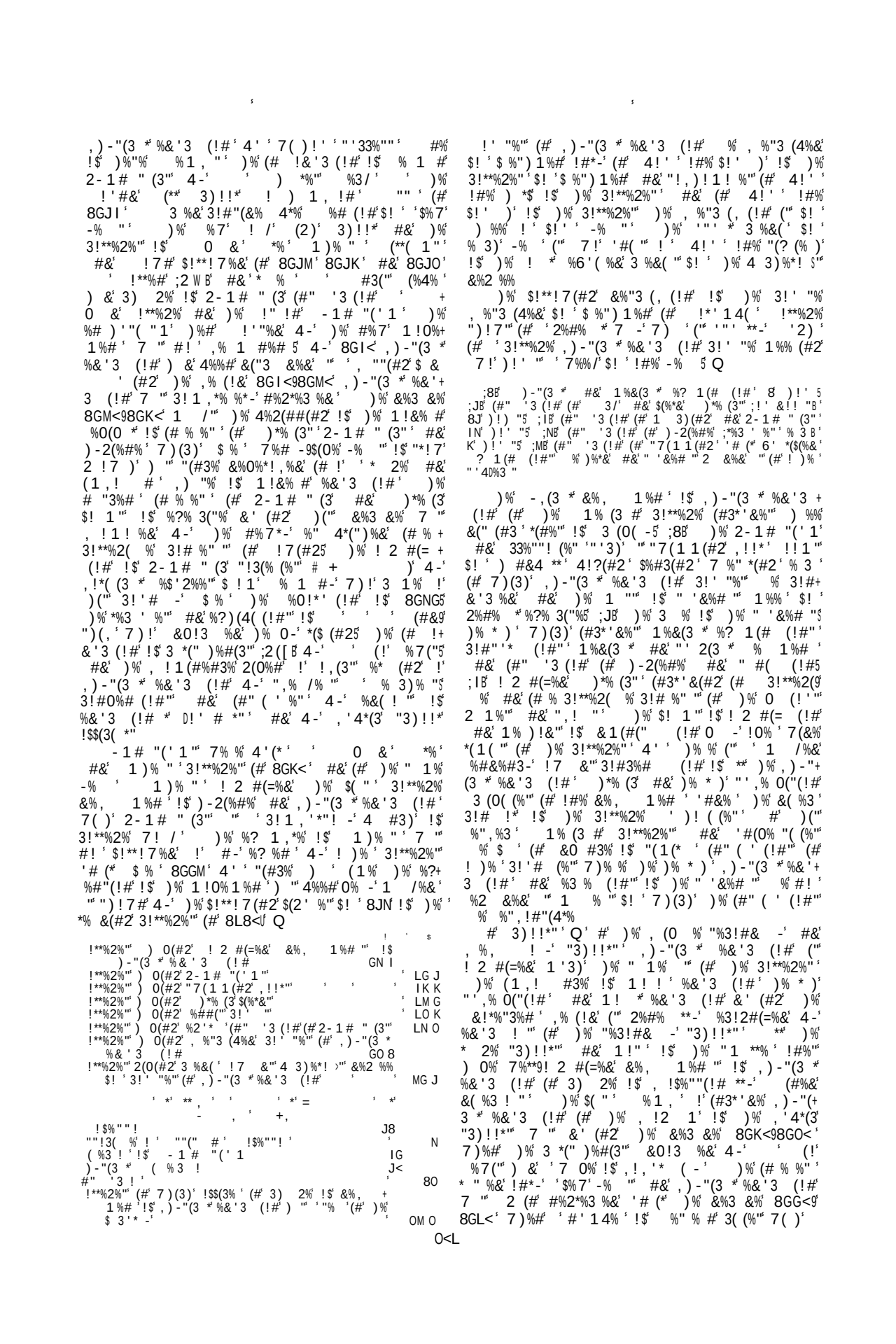

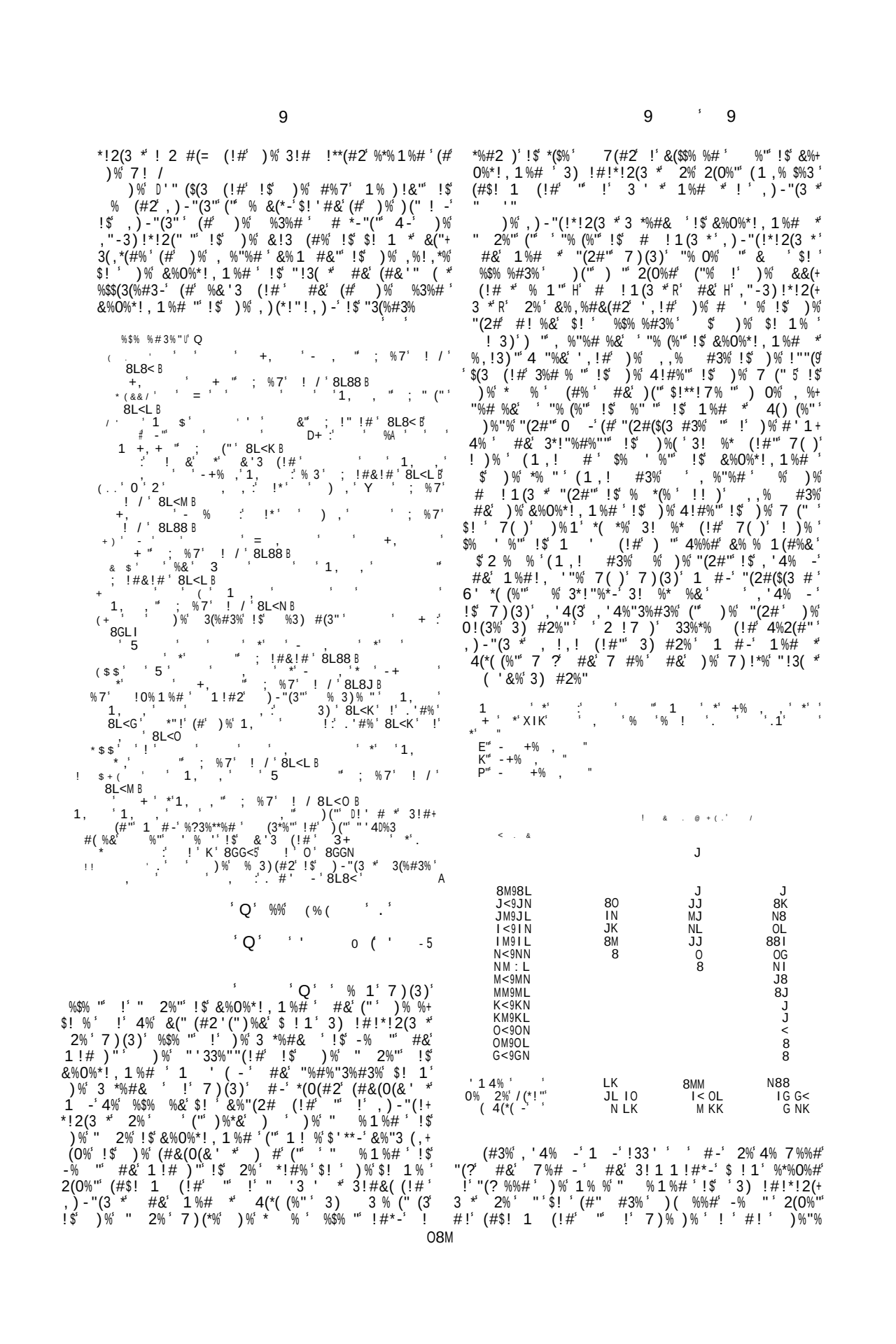

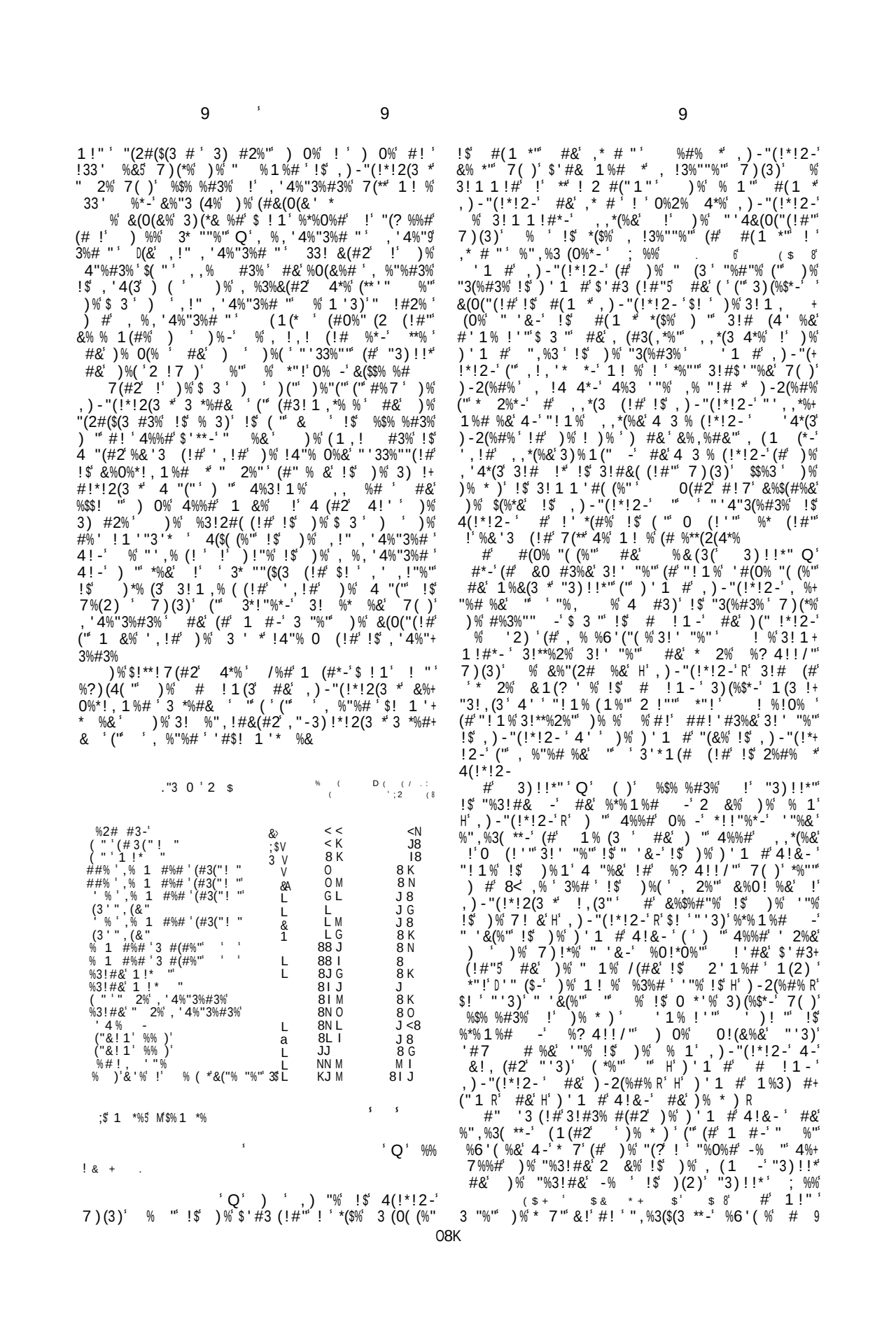

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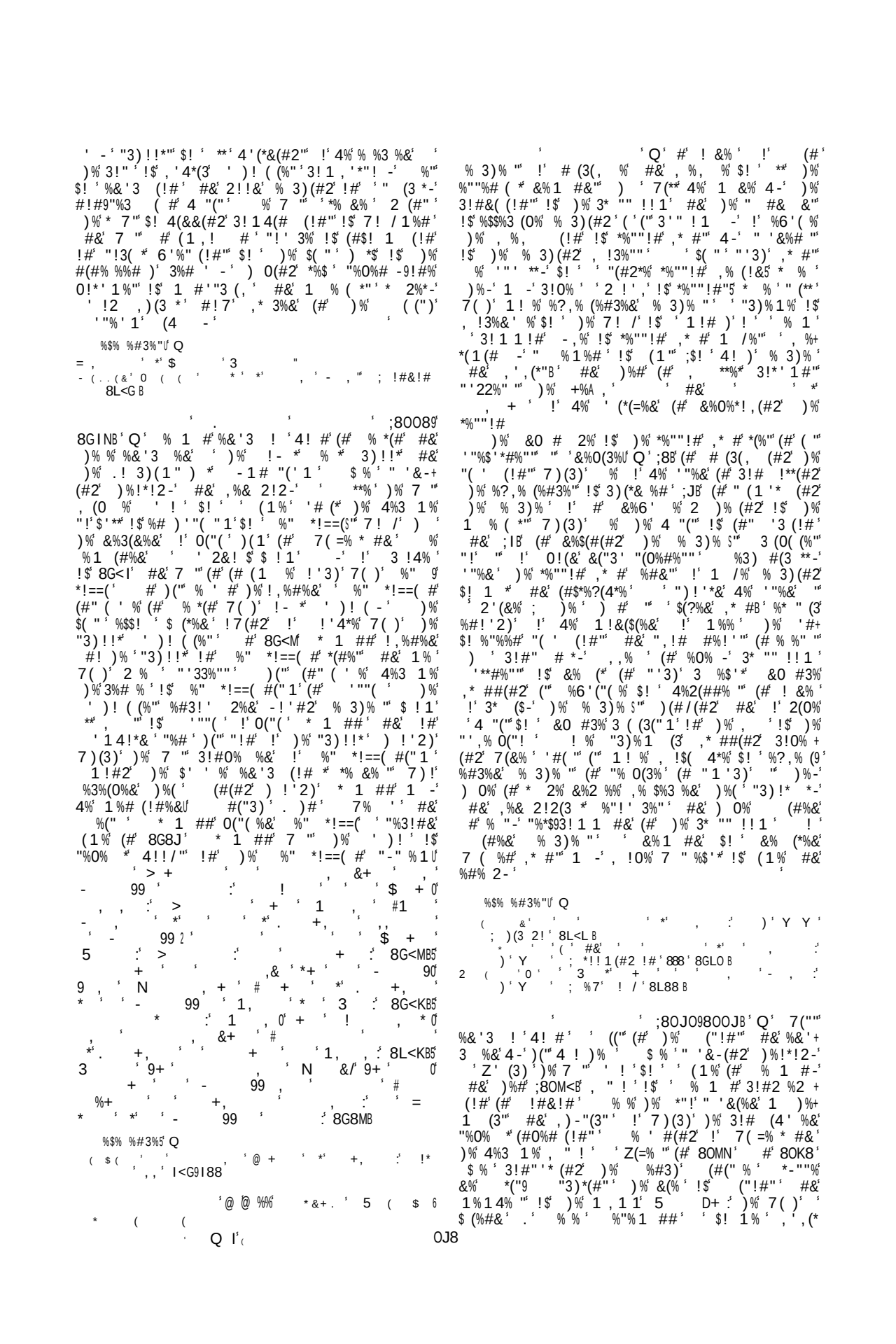

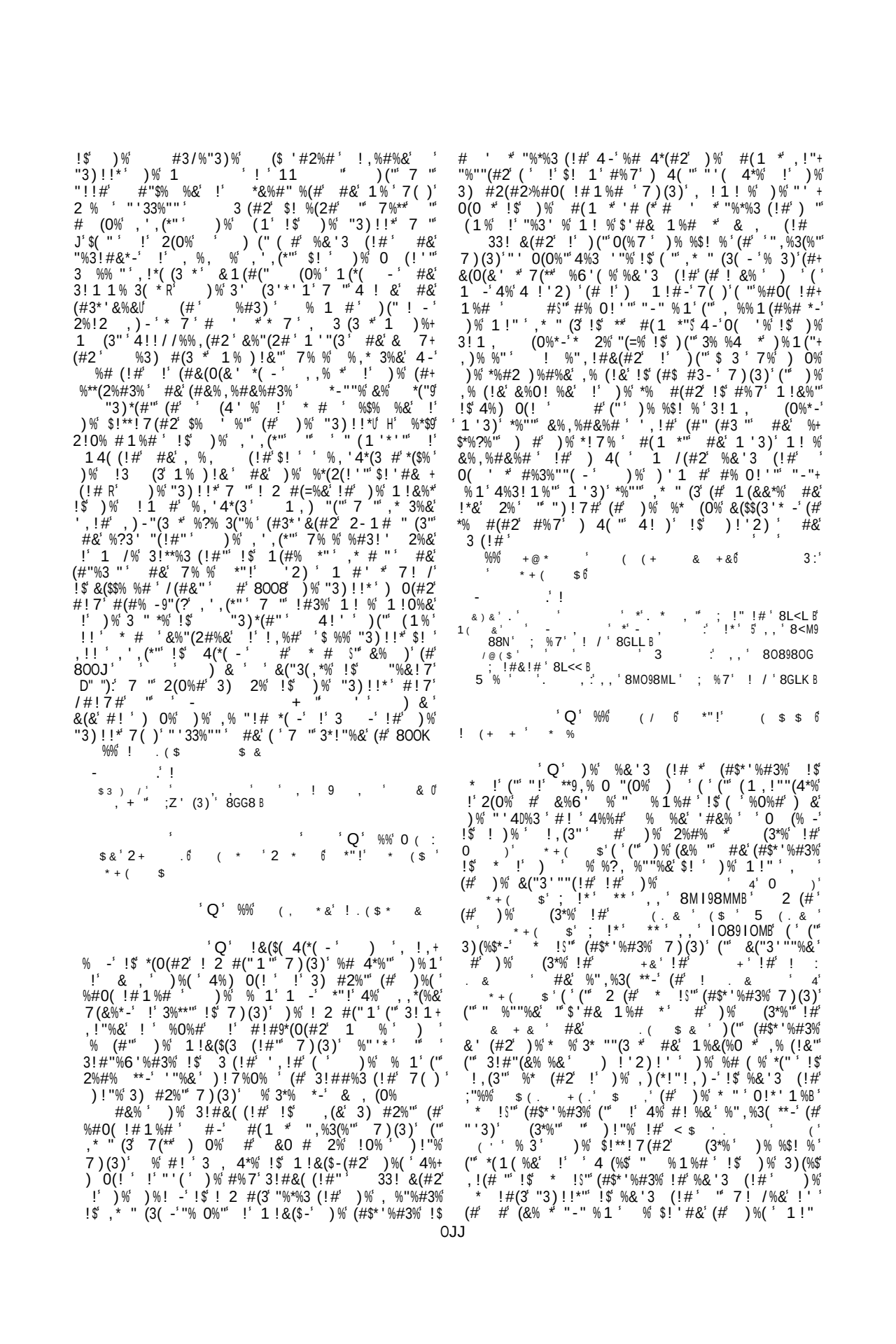

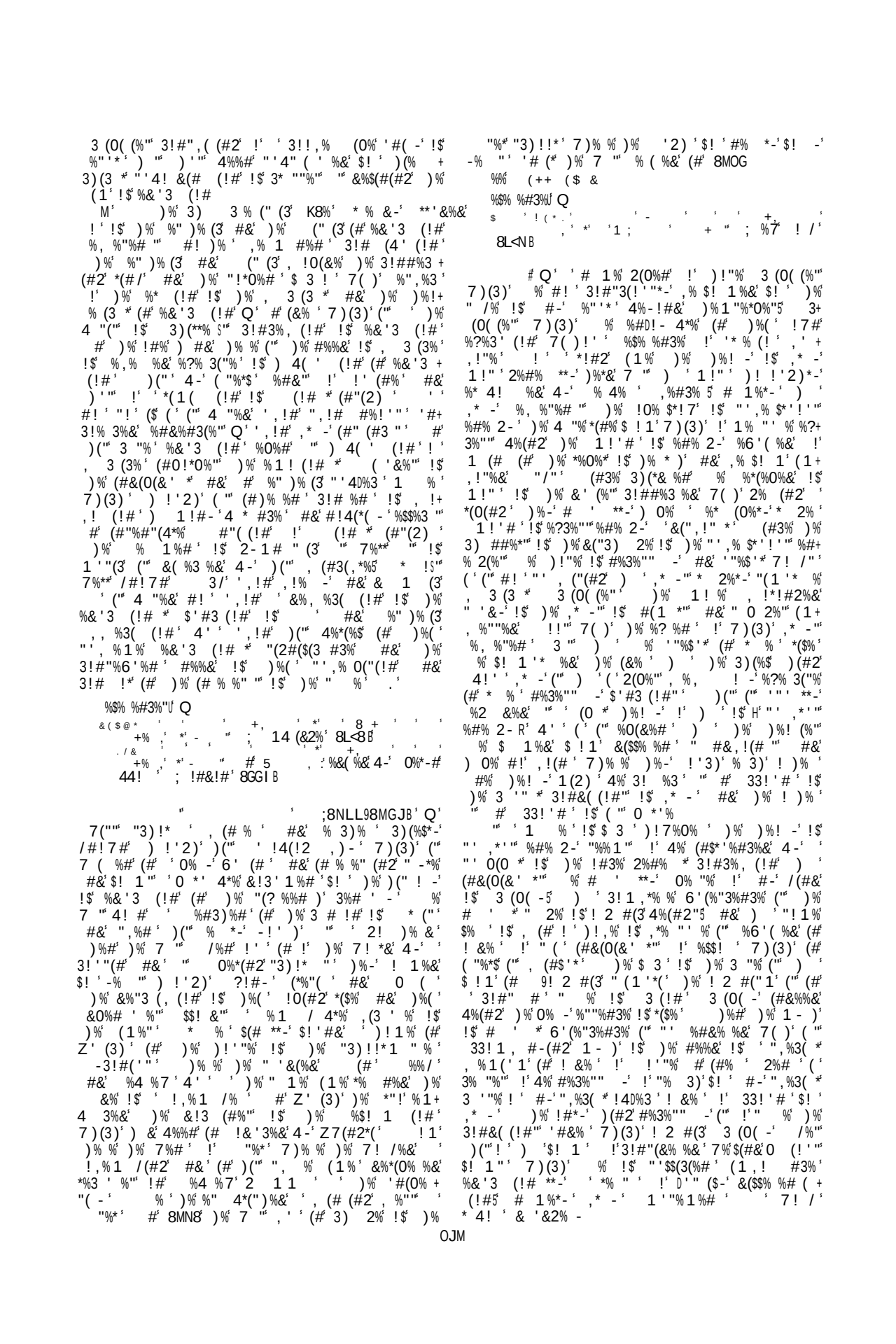

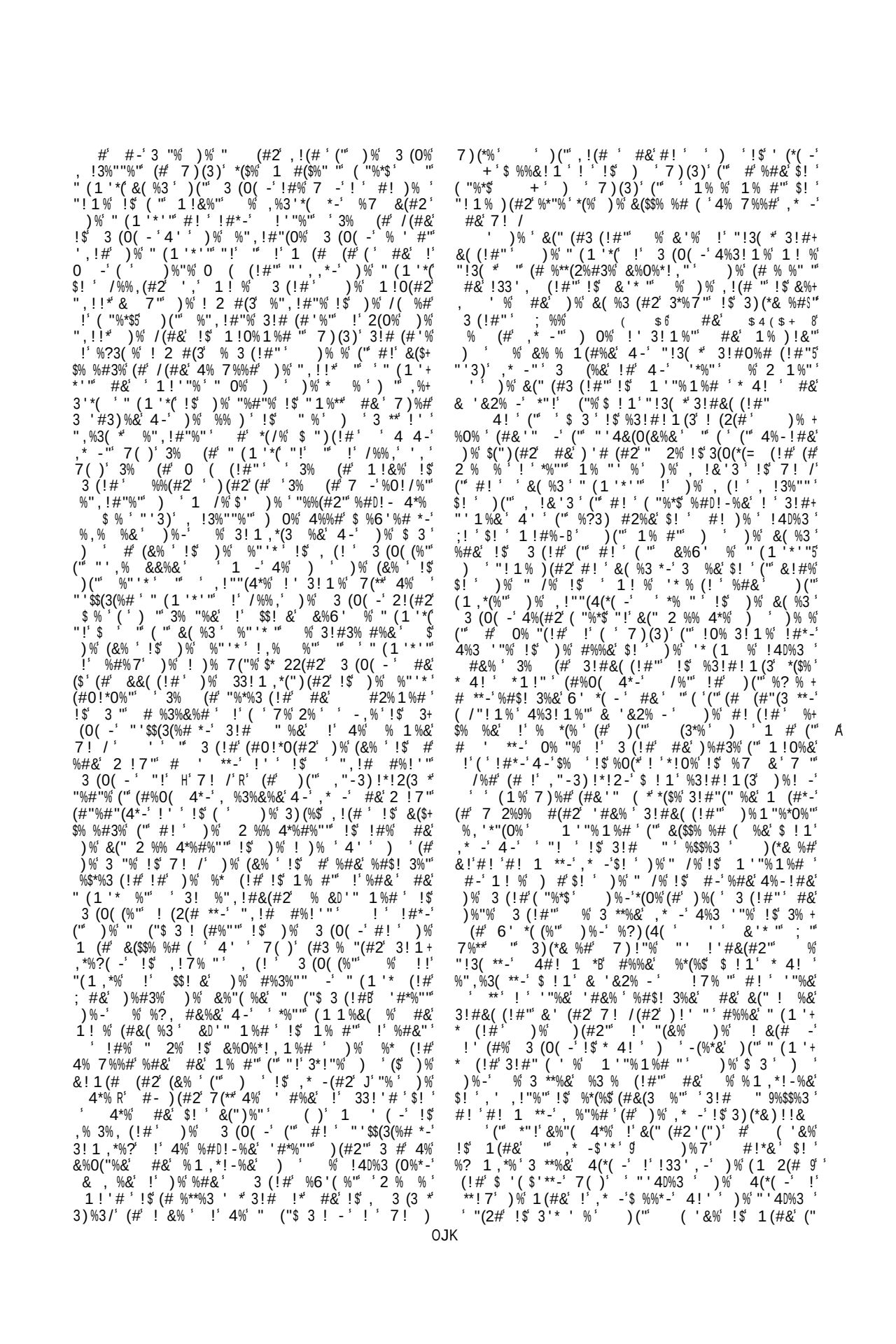

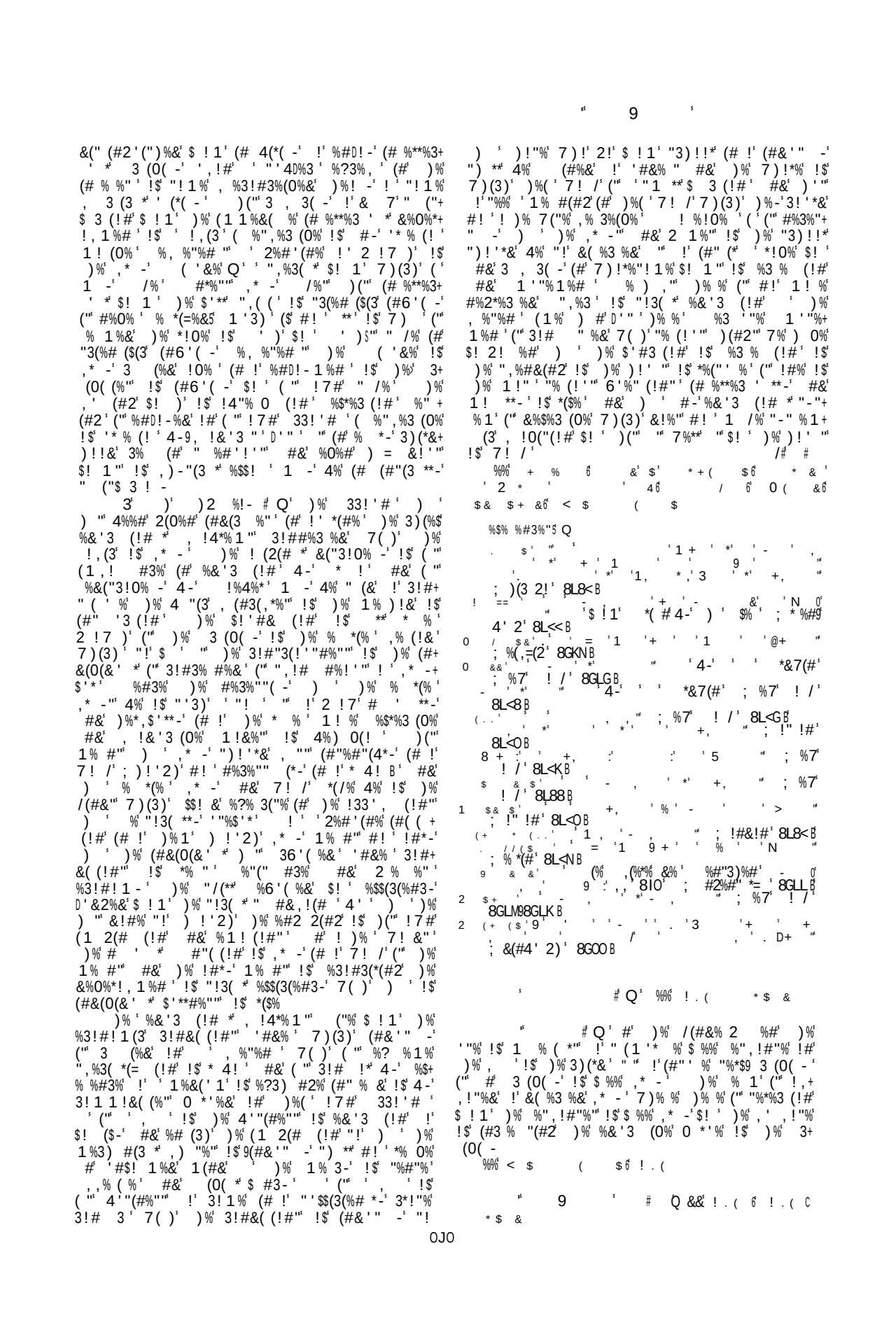

PLAYFAIR, LYON (1808–1898). — English scientist and politician, responsible in large measure for the introduction and spread of technical education in England. He studied at St. Andrews University, the Andersonian Institute at Glasgow, the University of Edinburgh, and at Giessen under Liebig, whose book on applied chemistry he presented at the British Association meeting in 1840. Always interested primarily in applied chemistry, he was appointed by Peel on a commission to inquire into the sanitary conditions in large towns. He played an important part in organizing the Exhibition of 1851 and came into close touch with the Prince Consort, who was interested at the time in promoting technical and scientific education in England. Playfair about this time visited the Continent to study the organization of technical instruction, and on his return lectured on the subject in England. He was largely responsible for the foundation of the Science and Art Department, of which he became one of the secretaries (1853). He also took a large share in establishing the Royal College of Science, the South Kensington Museum, and the 1851 scholarships for science. In 1858 he was appointed professor of chemistry at Edinburgh. In 1868 he entered Parliament as representative of the Universities of St. Andrews and Edinburgh, and 1885 as member for South Leeds. He held office several times, and in 1892 was raised to the peerage. Playfair used his influence in Parliament in favor of education and social improvement. Among the many commissions and committees of inquiry on which he served may be mentioned those on the Scottish universities, on endowed schools, and on civil service reforms (Playfair Commission, 1876).

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Dictionary of National Biography.

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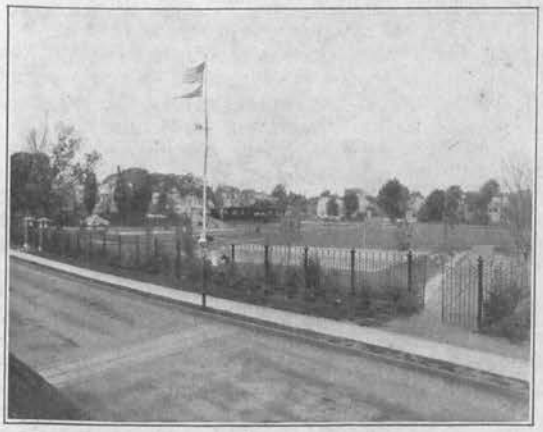
PLAYGROUNDS. — Plots of ground set aside for the holding of games, sports, athletic exercises, and amusing activities of various sorts. In the United States the deliberate provision of these areas was begun in 1886 when "three piles of yellow sand were placed in the yards of the Children's Mission," in Boston. The next year this society established eleven sand piles — one being in a school yard, — and special matrons to look after the children enjoying them were employed for the first time. With the growth in the number of the playgrounds they also became larger, new games appeared, and teachers trained in kindergarten methods were put in charge of them. In 1893 two summer playgrounds were started by philanthropic people in Philadelphia. The Children's Kindergarten Association started sand gardens in Providence, R. I., in 1894. About the same time several private playgrounds were started in New York City, but the movement did not really get under way until 1898, when the board of education, on taking over the vacation schools of the Association for Improving the Condition of the Poor, established twenty school playgrounds or sand gardens. The first summer playground in Chicago was started in 1897 through the efforts of the Associated Charities. Since that time the spread of the playground movement has been rapid. During 1911, according to reports received by the Playground and Recreation Association of America (75 cities known to have playgrounds did not report), playgrounds were maintained in 257 cities of the United States, the total number of such grounds being 1543. On their staffs, not including the caretakers, were 4132 men and women. The total expenditure for maintenance amounted to $2,736,506.16. In 36 of these cities the playgrounds were kept open throughout the year. Public parks, school yards, and vacant lots are the usual sites, but some of the larger cities conduct playground activities on specially constructed piers along the water front, and in the basements and on the roofs of schools and other large buildings.

Equipment. — The facilities provided vary greatly in character and quantity in accordance with local conditions. In Chicago, where the playgrounds form integral parts of an extensive park system, the typical layout includes a field large enough for baseball or football; a field house having a refectory, reading, club, and assembly rooms; indoor and outdoor gymnasiums for each sex; a large swimming pool for adults and a wading pool for small children. The latter forms the center of the children's space, which is equipped with sand courts, swings, teeter boards, slides, giant strides, and similar apparatus. The main field can be flooded in the winter for skating, and electric lights make it possible to use the large swimming pool by night as well as day from spring until fall. While such ample facilities are rather unusual, they indicate the kinds of equipment which in varying degrees of completeness are found in the park playgrounds throughout the country.

A typical school-yard equipment consists of several swings and teeters, a sand pit, a frame swing, basket-ball standards, a tether ball equipment, a net for volley ball, a standard for high jumping, a springboard, and a supply of playground balls, also materials for sewing, basket making, and raffia work. In many yards only jumping standards, horizontal bars, and sand piles are to be found, and in general more dependence is placed upon organization than equipment when the playground is managed by school officials.

The principal playground activities have been sufficiently indicated by the description of the equipment. Among those which are



A Public Playground, East Orange, N.J.

A School Playground, Detroit, Mich.

A Public Playground, Haarlem, Holland.

Assembly Hall in the Field House of a Public Playground, Chicago, Ill.

A Park Playground, Chicago, Ill.

Roof Playground, Public School Building, New York City.

PUBLIC PLAYGROUNDS

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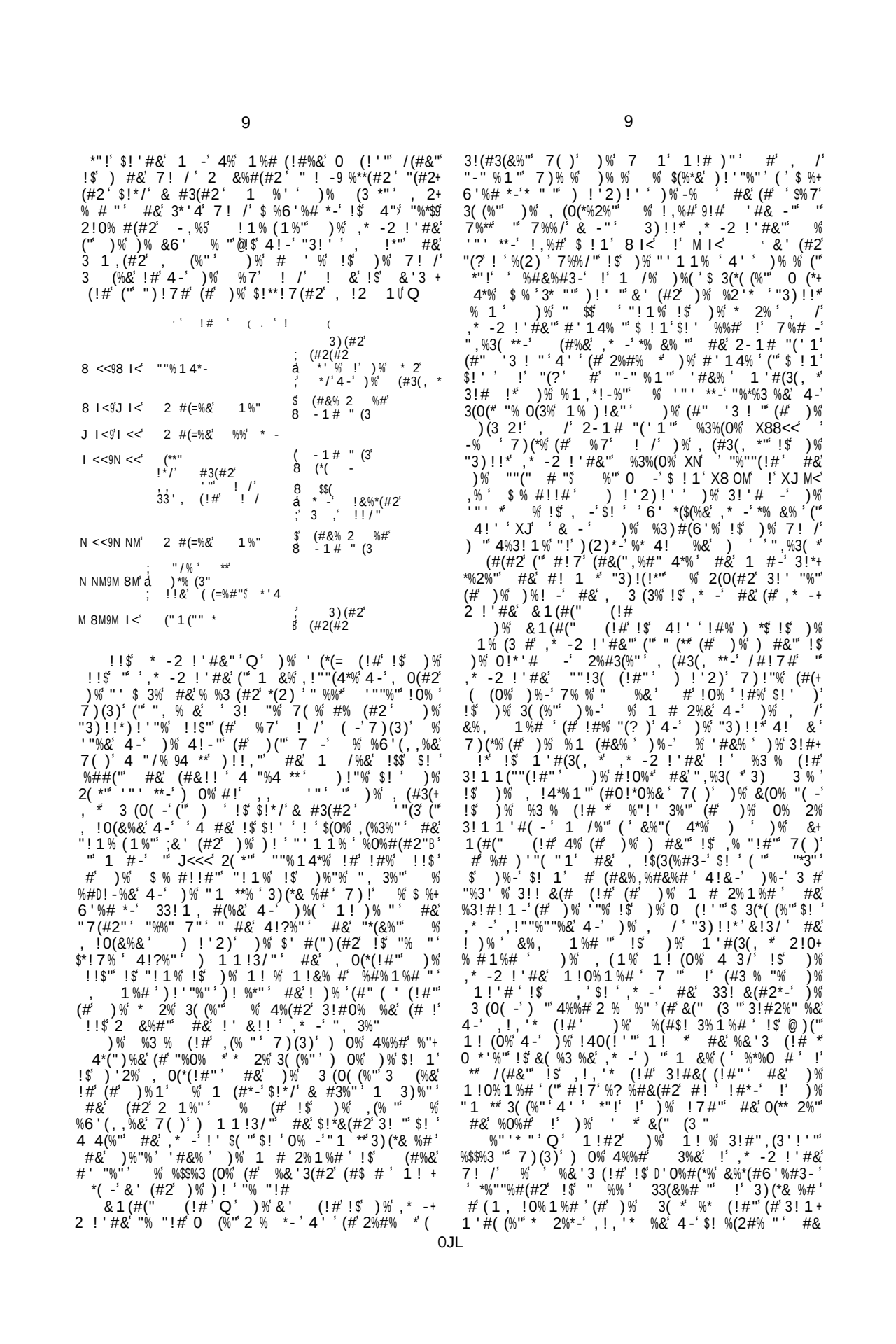

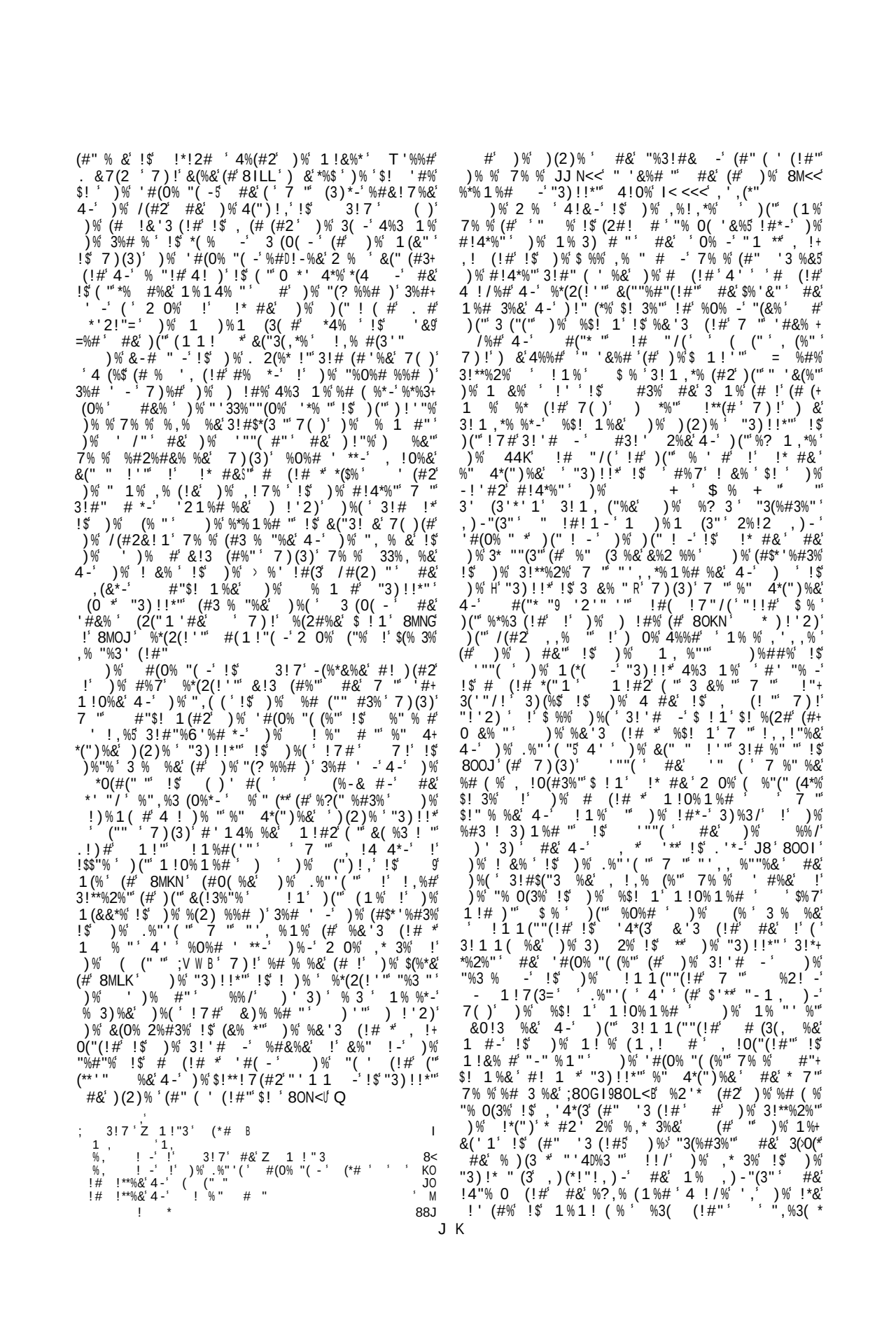

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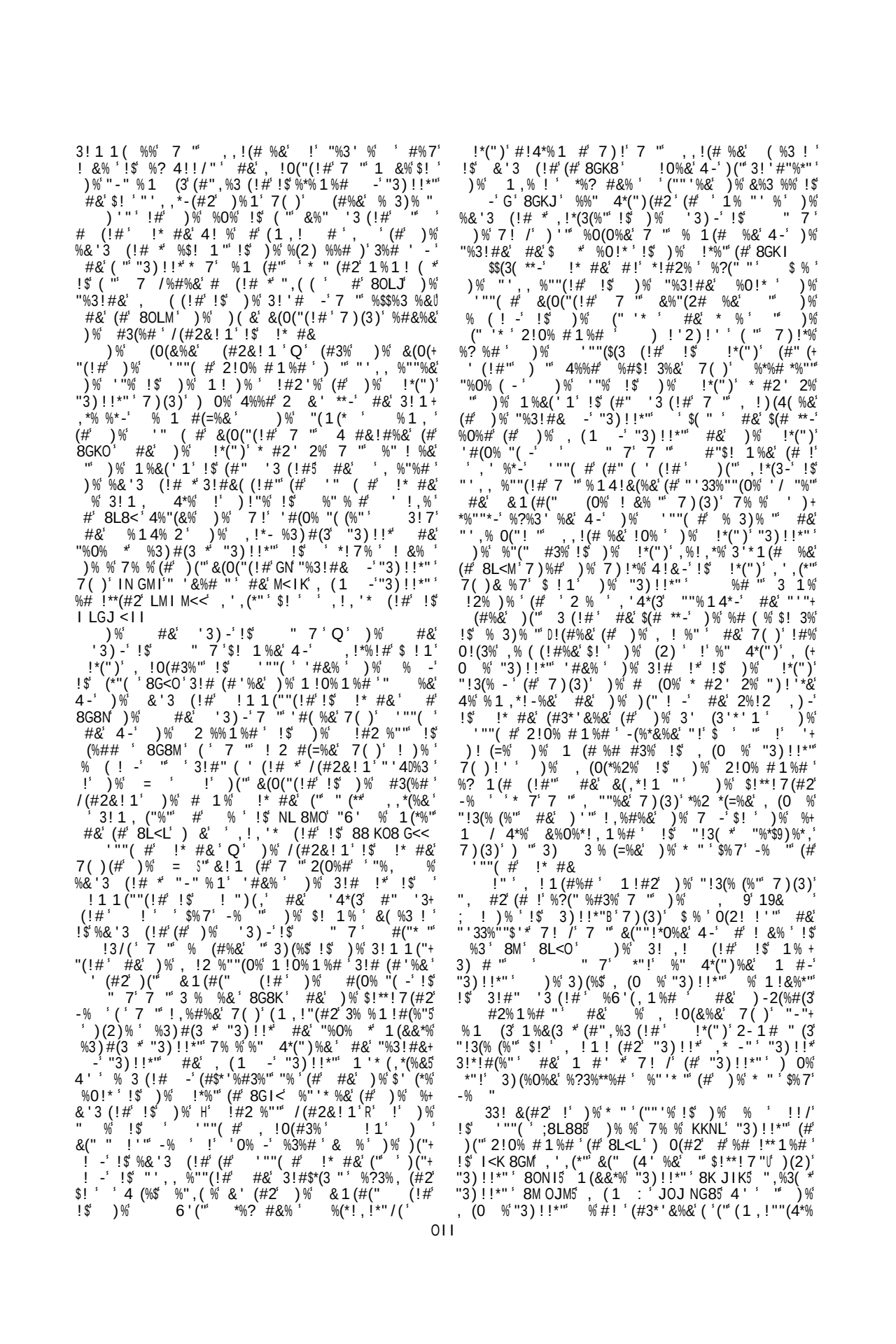

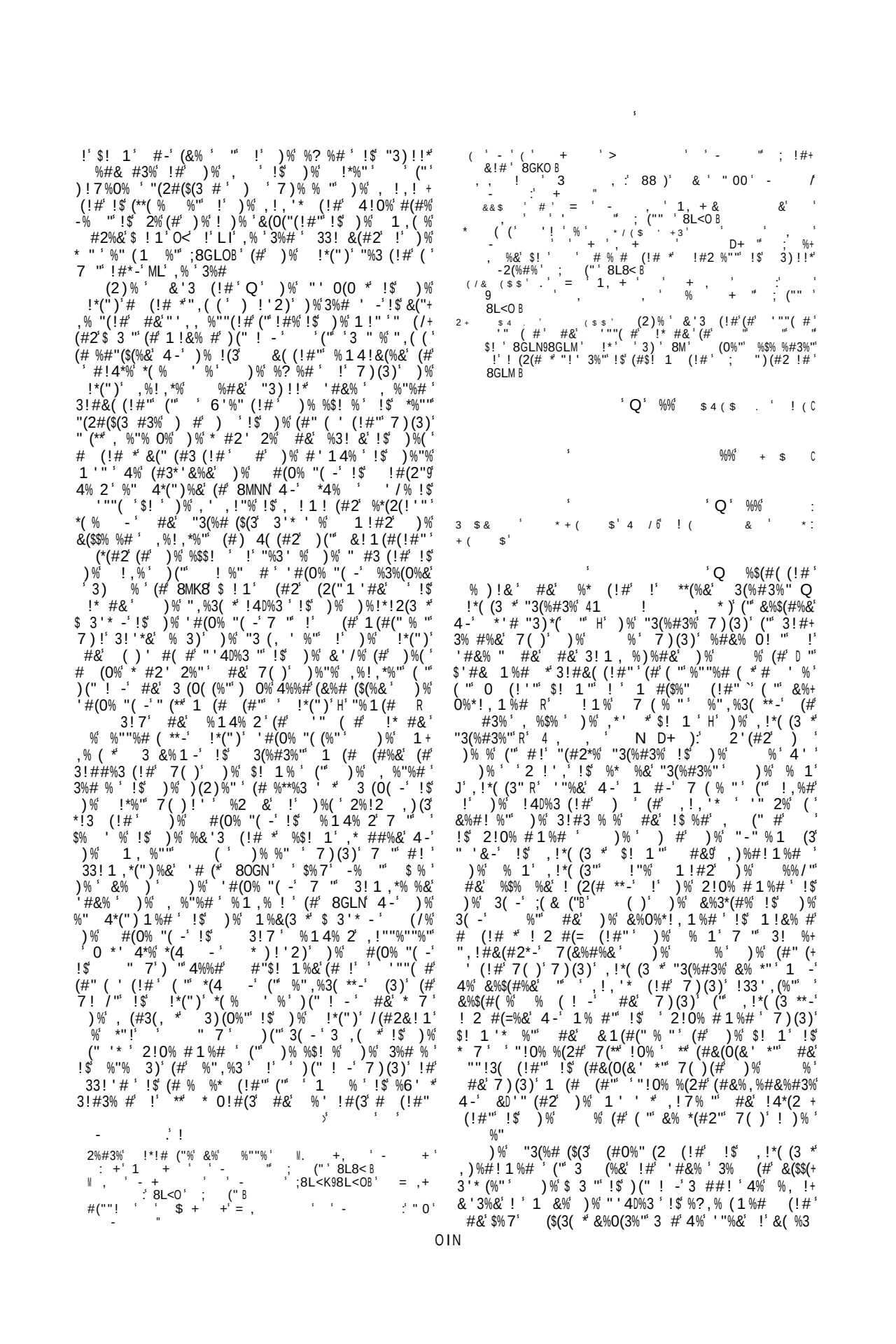

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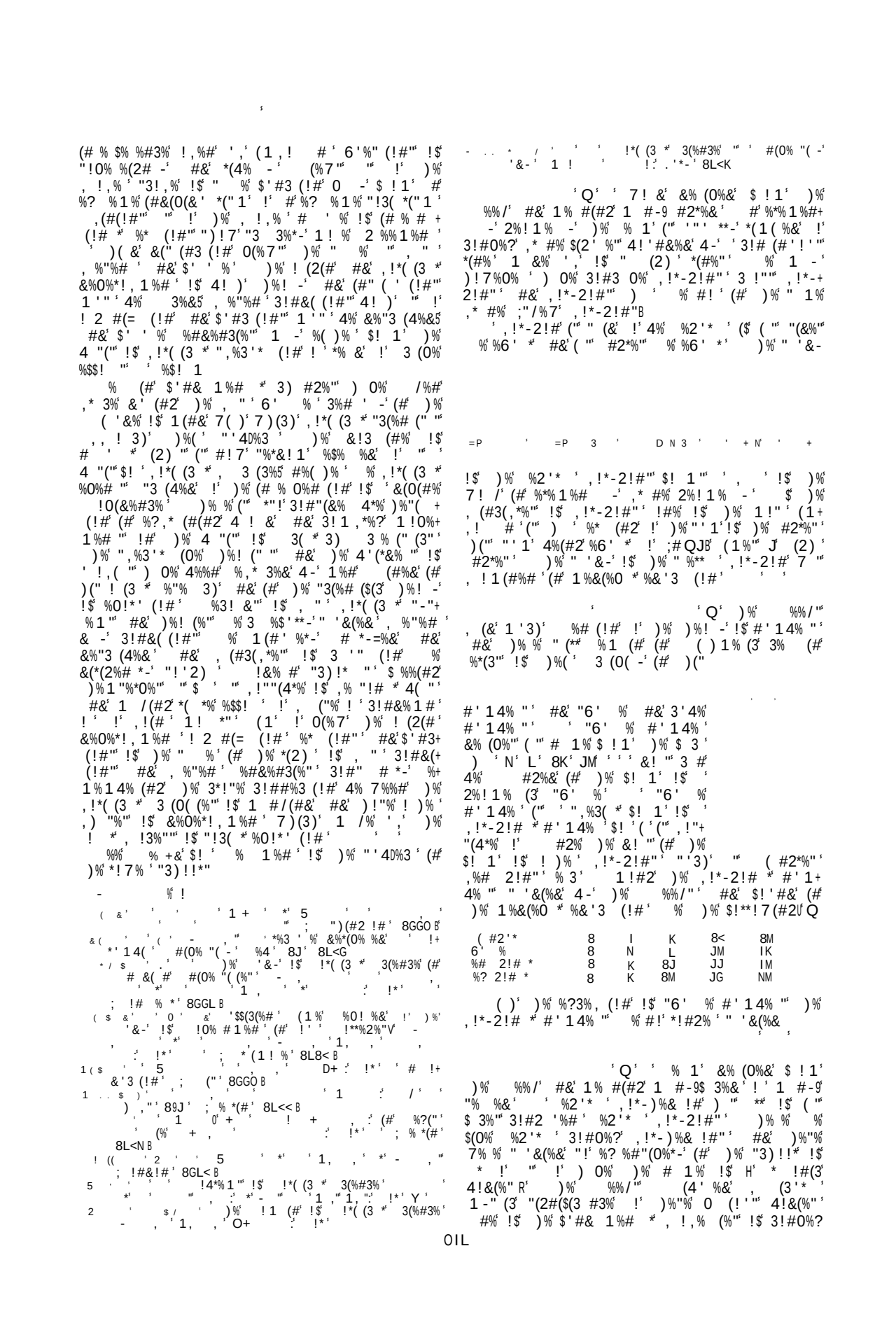

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